

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit
P0039126	ACI001-VC	1	1	Net 30	M4140H-R1.000	4140 round bar 1.00 : AISI 4140H ROUND BAR PER AISI4140OR ASTM A304-02/-A-434-BC/-A193-03- GRADE B7/-A29-03/-A322-91 OR UNS#-G41400 MINIMUM ULTIMATE TENSILE STRENGTH=100 KSI MINIMUM YIELD TENSILE STRENGTH=66KSI				12	3/7/2018	10		S048645	Stock	3/7/2018	\$ 4.66 / ft
		2			M304B0.500X6.000	304 Bar 0.500 X 6.000" : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft				6		6		S048646	Stock	3/7/2018	\$ 45.49 / ft
		3			M304B0.625X6.000	304 Bar 0.625 X 6.000" : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft						6		S048647	Stock	3/7/2018	\$ 55.63 / ft
		4			M304S11GA	304/316 0.125 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240				96		96		S048648	Stock	3/7/2018	\$ 12.23 / sf
		5			M304S18GA	304/316 .050 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240				64		64		S048649	Stock	3/7/2018	\$ 5.36 / sf
		6			M304S16GA	304/316 Sheet .063 : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240 receive sf				192		192		S048650	Stock	3/7/2018	\$ 6.51 / sf
		7			M304S20GA	304/316 .040 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240 receive sf				96		96		S048651	Stock	3/7/2018	\$ 3.91 / sf
		8			M304R5.500	304 SS Round bar 5.500 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft				8		8		S048652	Stock	3/7/2018	\$ 310.63 / ft
		9			M304R0.625	304 SS Round bar 0.625 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft				24		26		S048653	Stock	3/7/2018	\$ 2.66 / ft
		12			MT-A513-T-1.000W0.120	A513 Seamless Alloy Steel Round Tubing 1" dia. x 0.120" Wall				20		23		S048654	Stock	3/7/2018	\$ 2.47 / ft
		13			M6061T6B2.000X01.250	6061-T6 Bar 2.00 X 1.25 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft				12		12		S048655	Stock	3/7/2018	\$ 10.11 / ft

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit
		14			M6061T6B0.750X04.000	6061-T6 Bar .750 X 4.00 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft						12		S048656	Stock	3/7/2018	\$ 10.43 / ft
		16			M304B0.750X2.500	304 Bar .750 X 2.50 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft				36		36		S048657	Stock	3/7/2018	\$ 25.24 / ft
		17			M6061T6S.050	6061-T6 .050 Sheet : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf				96		96		S048658	Stock	3/7/2018	\$ 3.31 / sf
		18			M6061T6S.250	6061T6 Sheet .250 : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf				32		32		S048659	Stock	3/7/2018	\$ 12.30 / sf
		19	2		M1018R0.375	1010-1025 Round Bar .375 : MATERIAL: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108				12	3/8/2018	12		S048617	Stock	3/7/2018	\$ 0.50 / ft
		20	1		M1018B1.000X1.000	1010-1025 Steel Bar 1.000 X 1.000 : MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570 OR OR CSA G40-21 38W/44W/50W/60W/70W CSA G40-21 OR 38W/44W/50W/60W/70W					3/7/2018	12		S048661	Stock	3/7/2018	\$ 3.60 / ft
Total:										736		739					



## DELIVERY - CLIENT

Copy CO00075982

### ACIER OUELLETTE INC.

935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Customer N° CLI0001056  
Date 2018/02/27  
Delivery date **2018/03/06**  
Your order N° 39126  
Processed by Josianne Bourdon  
Salesman  
Carrier OUELLETTE VALLEYFIELD  
Credit Terme Net 30 Days  
Page 1

#### Billed to

DART AEROSPACE LTD

1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

#### Shipped to

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M

Delivery Route 5

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
<b>1</b> ROUND 4140 HEAT TREAT 1 (R) * R4140-1H <b>4919</b>  1 X 10' HEAT: 177569 COUPE A LA SCIE SCIE <b>1</b>	32.04	12.00	PI_\$CLB		1X10'		10'				DAS 11 9-88 MAR 07 2018
<b>2</b> FLAT SS 1/2 X 6 SS304 RANDOM NS FSS-126-V <b>9086</b>  1 X 6' HEAT: 600J AC13907-SUP-05/03	61.20	6.00	PI_\$CLB		1X 6'		6'				DAS 11 9-88 MAR 07 2018
<b>3</b> PLATE SS 5/8 SS304 HRAP RANDOM NS PSS-58-V <b>9133</b>  1 X 6' HEAT: 702625E AC13907-SUP-05/03	160.99	6.00	PI2_\$CLB		1X 6'		6'				DAS 11 9-88 MAR 07 2018

NIR : R-109516-6

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## DELIVERY - CLIENT

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### ACIER OUELLETTE INC.

935, Boul. du H vre  
Salaberry de Valleyfield (Qu bec) J6S 5L1  
T l.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Customer N  CLI0001056  
Date 2018/02/27  
Delivery date **2018/03/06**  
Your order N  39126  
Processed by Josianne Bourdon  
Salesman  
Carrier OUELLETTE VALLEYFIELD  
Credit Terme Net 30 Days  
Page 2

#### Billed to

DART AEROSPACE LTD

1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

#### Shipped to

, Ontario,

Att : CHANTAL LAVOIE T l.: 613-632-5200

Instruction F-M

Delivery Route 5

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
4 SHEET SS 11G SS304-2B (4 X 8) FESS-11G483042B <b>3402</b> <i>3 X 4' X 8' HEAT: 459P</i>	504.00	96.00	PI2_\$CLB		3+		⑤ 96 <sup>PI2</sup>				DAG 11 MAR 07 2018 9-00
5 SHEET SS 18G SS304-2B (4 X 8) FESS-18G483042B <b>3425</b> <i>2 X 4' X 8' HEAT: LZ513C03</i>	134.40	64.00	PI2_\$CLB		2+		③ 64 <sup>PI2</sup>				DAG 11 MAR 07 2018 9-00
6 SHEET SS 16G SS304-2B (4 X 8) FESS-16G483042B <b>3419</b> <i>6 X 4' X 8' HEAT: 514212</i>	504.00	192.00	PI2_\$CLB		6+		④ 192 <sup>PI2</sup>				DAG 11 MAR 07 2018 9-00
7 SHEET SS 20G SS304-2B (4 X 8) FESS-20G483042B <b>3430</b> <i>3 X 4' X 8' HEAT: 853274</i>	150.72	96.00	PI2_\$CLB		3+		② 96 <sup>PI2</sup>				DAG 11 MAR 07 2018 9-00

NIR : R-109516-6

Next Page...



## DELIVERY - CLIENT

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935, Boul. du H vre  
Salaberry de Valleyfield (Qu bec) J6S 5L1  
T l.: 450-377-4248 M l: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 M l: 514-336-4246 Ext.: 866-456-4242

Customer N  CLI0001056  
Date 2018/02/27  
Delivery date **2018/03/06**  
Your order N  39126  
Processed by Josianne Bourdon  
Salesman  
Carrier OUELLETTE VALLEYFIELD  
Credit Terme Net 30 Days  
Page 3

#### Billed to

DART AEROSPACE LTD

1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

#### Shipped to

, Ontario,

Att : CHANTAL LAVOIE T l.: 613-632-5200

Instruction F-M

Delivery Route 5

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
<b>8</b> ROUND SS 5 1/2 304 NS RSS-512 <b>10145</b> <i>1 X 8' HEAT: 41257</i> <i>AC13908-MM-28/02</i>	646.24	8.00	PI_\$CLB		1x8'		8'				DAS 11 9-30 MAR 07 2018
<b>9</b> ROUND SS 5/8 304 (R) * RSS-58 <b>5777</b> <i>2 X 12' R/L HEAT: 439067</i>	25.03	24.00	PI_\$CLB		2x136"		26'				DAS 11 9-30 MAR 07 2018
<b>10</b> TUBE MEC 0.625 OD X .095 (R) * TME-0625095 <b>6763</b> <i>1 X 20' R/L HEAT: 15D2317</i> TRANSIT ST-JEROME LE 28/02	10.76	20.00	PI_\$CPI		1x 24'		?				

NIR : R-109516-6

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## DELIVERY - CLIENT

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### ACIER OUELLETTE INC.

935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**Customer N°** CLI0001056  
**Date** 2018/02/27  
**Delivery date** **2018/03/06**  
**Your order N°** 39126  
**Processed by** Josianne Bourdon  
**Salesman**  
**Carrier** OUELLETTE VALLEYFIELD  
**Credit Terme** Net 30 Days  
**Page** 4

#### Billed to

DART AEROSPACE LTD

1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

#### Shipped to

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

**Instruction** F-M

**Delivery Route** 5

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
<b>12</b> TUBE MEC 0.750 OD X .095 (R) * TME-0750095 <b>8163</b>  1 X 20' R/L HEAT: 1502800 TRANSIT ST-JEROME LE 28/02	13.30	20.00	PI_\$CPI		1x 23'8"		7				
<b>14</b> TUBE MEC 1.000 OD X .120 (R) * TME-1000120 <b>6505</b>  1 X 20' R/L HEAT: D37954	22.56	20.00	PI_\$CPI		1x23'11"		23'	DA 1- 9-2			MAR 07 2018
<b>15</b> FLAT ALU 1 1/4 X 2 6061-T6 * FAL-1142 <b>2456</b>  1 X 12' HEAT: 3B5790	35.28	12.00	PI_\$CLB		1x12'		12'	D 3- 9-1			MAR 07 2018

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NIR : R-109516-6

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## DELIVERY - CLIENT

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### ACIER OUELLETTE INC.

935, Boul. du Hâvre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Customer N° CLI0001056  
Date 2018/02/27  
Delivery date **2018/03/06**  
Your order N° 39126  
Processed by Josianne Bourdon  
Salesman  
Carrier OUELLETTE VALLEYFIELD  
Credit Terme Net 30 Days  
Page 5

**Billed to**  
DART AEROSPACE LTD  
1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Shipped to**  
  
, Ontario,  
  
Att : CHANTAL LAVOIE Tél.: 613-632-5200

**Instruction** F-M

**Delivery Route** 5

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only					
				CMD	EXP	B/O	IN	I	S	C	OUT	
<b>16</b> FLAT ALU 3/4 X 4 6061-T6 * FAL-344 <b>2596</b> <i>1 X 12' HEAT: 70740</i>	42.29	12.00	PI_\$CLB		1x12'		12'				MAR 07 2018	DAP 31 9-30
<b>17</b> FLAT SS 3/4 X 2 1/2 SS304 RANDOM NS FSS-34212-V <b>8747</b> <i>3 X 12' R/L HEAT: 26600</i> <i>AC13997-MM-05-03</i>	229.50	36.00	PI_\$CLB		2x12 9" 1x10'10"		36'				MAR 07 2018	DAP 31 9-30
<b>18</b> ALU SHEET .051 (16G) 6061-T6 (4 X 12) FEAL-0514126061 <b>3145</b> <i>2 X 4' X 12' HEAT: 32115/01</i> TRANSIT ST-JEROME LE 28/02	68.93	96.00	PI2_\$CLB		2x4x12'		96' 11/2				MAR 07 2018	DAP 31 9-30

NIR : R-109516-6

Next Page...





# DELIVERY - CLIENT

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## ACIER OUELLETTE INC.

935, Boul. du Hâvre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Customer N° CLI0001056  
Date 2018/02/27  
Delivery date **2018/03/06**  
Your order N° 39126  
Processed by Josianne Bourdon  
Salesman  
Carrier OUELLETTE VALLEYFIELD  
Credit Terme Net 30 Days

**Billed to**  
DART AEROSPACE LTD

1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

### Shipped to

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

**Instruction** F-M

**Delivery Route** 5

**Page** 6

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only					
				CMD	EXP	B/O	IN	I	S	C	OUT	
20 ALU PLATE 1/4 6061-T651 (4 X 8) PAL-14486061 <b>4242</b> 1 X 4' X 8' HEAT: 16-39426053	117.12	32.00	PI2_\$CLB		1X4'X8'		32 P <sup>12</sup>				MAR 07 2018	
21 ROUND CR 3/8 1018 (R) * RCR-38 <b>5337</b> 1 X 12' R/L HEAT: 41776 GM	4.51	12.00	PI_\$CLB		1X12'		12'				MAR 07 2018	
22 SQUARE CR 1 1018 (R) * CCR-1 <b>1813</b> 1 X 12' R/L HEAT: 41198 G	40.80	12.00	PI_\$CLB		1X12'		12'				MAR 07 2018	

**Conditions :**  
All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

**Total Weight (Lbs) :** 2 803.67

**NIR :** R-109516-6

**Total (\$CAD)**

Prepared By :  
CL/MH

Verified By :

Delivered By :

Time

Y M D  
| | |  
| | |

Customer's Signature

Date





Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER PO039126

**Supplier:** ACI001-VC  
Acier Ouellette Inc.  
935 Boul. Du Havre  
Valleyfield  
QC  
J6S 5L1 Canada  
Phone: 800 667 4248  
Fax: 450 377 5696

**PO No:** PO039126

**PO Date:** 2/26/18

**Due Date:** 3/2/18

**Purchase Order**

**Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
clavoie@dartaero.com

**E-MAILED**

**FEB 27 2018**

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pynt Terms:** Net 30

**Freight Terms:**

**Special Comments:** quotation no: sou0087982

## Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	M4140H-R1.000		4140 round bar 1.00 : AISI 4140H ROUND BAR PER AISI4140OR ASTM A304-02/-A-434- BC/-A193-03-GRADE B7/- A29-03/-A322-91 OR UNS#-G41400 MINIMUM ULTIMATE TENSILE STRENGTH=100 KSI MINIMUM YIELD TENSILE STRENGTH=66KSI	Firmed	3/2/18	12 ft	10' 0 ft	12 ft	\$4.664/ft	\$55.97
2	M304B0.500X6.000		304 Bar 0.500 X 6.000" : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	3/2/18	6 ft	6' 0 ft	6 ft	\$45.48666/ft	\$272.92
3	M304B0.625X6.000		304 Bar 0.625 X 6.000" : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	3/2/18	6 ft	6' 0 ft	6 ft	\$55.83333/ft	\$335.00
4	M304S11GA		304/316 0.125 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240	Firmed	3/2/18	96 sf	96' 0 sf	96 sf	\$12.2298/sf	\$1,174.06

Plex 2/26/18 2:10 PM dart.lavoie.chantal

## PURCHASE ORDER

PURCHASE ORDER										
Line Item	Part	Supplier Part No	Items							
			Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
5	M304S18GA		304/316 .050 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240	Firmed	3/2/18	64 sf	0 sf	64 sf	\$5.355/sf	\$342.72
							64		MAR 07 2018	DAS 11 9-89
6	M304S16GA		304/316 Sheet .063 : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240 receive sf	Firmed	3/2/18	192 sf	0 sf	192 sf	\$6.508625/sf	\$1,249.66
							192		MAR 07 2018	DAS 11 9-89
7	M304S20GA		304/316 .040 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240 receive sf	Firmed	3/2/18	96 sf	0 sf	96 sf	\$3.9085416/sf	\$375.22
							96		MAR 07 2018	DAS 11 9-89
8	M304R5.500		304 SS Round bar 5.500 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	3/2/18	8 ft	0 ft	8 ft	\$310.625/ft	\$2,485.00
							8		MAR 07 2018	DAS 11 9-89
9	M304R0.625		304 SS Round bar 0.625 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	3/2/18	24 ft	0 ft	24 ft	\$2.6591666/ft	\$63.82
							26		MAR 07 2018	DAS 11 9-89
10	MT-A513-T-0.625W0.095		A513 Seamless Alloy Steel Round Tubing 0.625"dia. x 0.095" Wall	Firmed	3/2/18	20 ft	0 ft	20 ft	\$2.9595/ft	\$59.19
11	MT-A513-T-0.750W0.095		A513 Seamless Alloy Steel Round Tubing 0.75"dia. x 0.095" Wall	Firmed	3/2/18	20 ft	0 ft	20 ft	\$2.4095/ft	\$48.19
12	MT-A513-T-1.000W0.120		A513 Seamless Alloy Steel Round Tubing 1"dia. x 0.120" Wall	Firmed	3/2/18	20 ft	0 ft	20 ft	\$2.4695/ft	\$49.39
							23		MAR 07 2018	DAS 11 9-89
13	M6061T6B2.000X01.250		6061-T6 Bar 2.00 X 1.25 : MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	3/2/18	12 ft	0 ft	12 ft	\$10.1125/ft	\$121.35
							12		MAR 07 2018	DAS 11 9-89

## PURCHASE ORDER

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
19	M1018R0.375		1010-1025 Round Bar .375 : MATERIAL: AISI 1018- 1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108	Forecast	3/7/18	12 ft	0 ft	12 ft	\$0.4958333/ft	\$5.95
						Firmed	3/8/18	12 ft	0 ft	12 ft \$0.4958333/ft
						Sub Total:	24	0	24	\$11.90
Grand Total:										\$370.61

## Order Notes

## Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

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## PURCHASE ORDER

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
14	M6061T6B0.750X04.000		6061-T6 Bar .750 X 4.00 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	3/2/18	12 ft	0 ft	12 ft	\$10.429166/ft	\$125.15
15	M6061T6B1.000X1.750		6061T6 Bar 1.000 X 1.750 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	3/2/18	12 ft	0 ft	12 ft	\$20.166666/ft	\$242.00
16	M304B0.750X2.500		304 Bar .750 X 2.50 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	3/2/18	36 ft	0 ft	36 ft	\$25.241944/ft	\$908.71
17	M6061T6S.050		6061-T6 .050 Sheet : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf	Firmed	3/2/18	96 sf	0 sf	96 sf	\$3.3095833/sf	\$317.72
18	M6061T6S.250		6061T6 Sheet .250 : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf	Firmed	3/2/18	32 sf	0 sf	32 sf	\$9.92875/sf	\$317.72
19	<del>M1018R0.313</del>		1018-1025 Round Bar .313 : MATERIAL: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108 receive ft	Firmed	3/2/18	12 ft	0 ft	12 ft	\$0.4958333/ft	\$5.95
20	M1018B1.000X1.000		1010-1025 Steel Bar 1.000 X 1.000 : MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570 OR OR CSA G40-21 38W/44W/50W/60W/70W CSA G40-21 OR 38W/44W/50W/60W/70W	Firmed	3/2/18	12 ft	0 ft	12 ft	\$3.6025/ft	\$43.23

cy  
MAR 07 2018  
deleted part

# for m1018R0.375

## PURCHASE ORDER

Items										
Line-Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
										<b>Grand Total: \$8,592.96</b>
<p align="center"><b>Order Notes</b></p> <p>Procurement Quality Clauses</p> <p>A005 right of entry</p> <p>A012 chemical and physical test report</p> <p>A016 personnel qualification</p> <p>A017 raw material identification (as applicable)</p> <p>A026 certification of material conformance</p> <p>A041 quality management system</p> <p>A042 dart notification by supplier</p> <p>A043 retention of quality documents</p> <p>A048 counterfeit parts avoidance, detection, mitigation and disposition program</p> <p>A049 supplier awareness</p> <p>Terms &amp; Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit <a href="http://www.dartaerospace.com">www.dartaerospace.com</a> for further explanation.</p>										

Plex 2/26/18 2:10 PM dart.lavoie.chantal

**ACIER OUELLETTE INC.**

935, Boul. du H vre  
Salaberry de Valleyfield (Qu bec) J6S 5L1  
T l.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**Quotation****SOU0087982****Billed to**

DART AEROSPACE LTD  
1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE T l.: 613-632-5200

**Customer N **

CLI0001056

**Date**

2018/02/22

**Revision N **

0

**Prices valid until**

2018/03/01

**Your Order N ****Processed by**

Josianne Bourdon

**Salesman**

JOSIANNE

**Carrier**

OUELLE SDV

**Credit Terms**

Net 30 Days

**Page**

4

Product N� and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
<del>FLAT ALU 1 X 2 6061-T6 *</del> <del>FAL-12 2497</del> <del>1 X 20' STOCK</del>	48.00	20.00	PI_\$CLB	20.00	PI		1.00	149.260	149.26
ALU PLATE 1 6061-T651 RANDOM PAL-16061-V 4249 1 X 15" X 144" 4-5 DAYS	216.60	15.00	PI2_\$CLB	15.00	PI2		1.00	1 052.570	1 052.57
ALU PLATE 1 6061-T651 RANDOM PAL-16061-V 4249 1 X 16" X 144" 4-5 DAYS	231.04	16.00	PI2_\$CLB	16.00	PI2		1.00	1 122.740	1 122.74
<del>FLAT ALU 3/4 X 6 6061-T6 *</del> <del>FAL-346 2601</del> <del>1 X 12' STOCK</del>	63.44	12.00	PI_\$CLB	12.00	PI		1.00	218.850	218.85
<del>FLAT ALU 1 1/4 X 2 6061-T6 *</del> <del>FAL-1142 2456</del> <del>1 X 12' STOCK</del>	35.28	12.00	PI_\$CLB	12.00	PI		1.00	121.350	121.35
ALU SHEET .051 (16G) 6061-T6 (4 X 12) FEAL-0514126061 3145 2 X 4' X 12' 2-3 DAYS	68.93	96.00	PI2_\$CLB	2.00	UN		2.00	158.860	317.72
ALU PLATE 1/4 6061-T651 (4 X 8) PAL-14486061 4242 1 X 4' X 8' STOCK	117.12	32.00	PI2_\$CLB	1.00	UN		1.00	393.460	393.46
<del>ALU SHEET .081 (12G) 6061-T6 (4 X 12)</del> <del>FEAL-0814126061 3195</del> <del>2 X 4' X 12' 2-3 DAYS</del>	109.54	96.00	PI2_\$CLB	2.00	UN		2.00	252.455	504.91
ALU PLATE 5/16 6061-T651 (4 X 12) PAL-5164126061 4289 1 X 4' X 12' 2-3 DAYS	216.96	48.00	PI2_\$CLB	1.00	UN		1.00	974.040	974.04
ROUND CR 3/8 1018 (R) * RCR-38 5337 1 X 12' R/L STOCK	4.51	12.00	PI_\$CLB	12.00	PI		1.00	5.950	5.95

Date :

Next Page...

**ACIER OUELLETTE INC.**

935, Boul. du H vre  
Salaberry de Valleyfield (Qu bec) J6S 5L1  
T l.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**Quotation****SOU0087982****Billed to**

DART AEROSPACE LTD  
1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE T l.: 613-632-5200

**Customer N **

CLI0001056

**Date**

2018/02/22

**Revision N **

0

**Prices valid until**

2018/03/01

**Your Order N ****Processed by**

Josianne Bourdon

**Salesman**

JOSIANNE

**Carrier**

OUELLE SDV

**Credit Terms**

Net 30 Days

**Page**

5

Product N� and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
SQUARE CR 1 1018 (R) * CCR-1 1813 1 X 12' R/L STOCK	40.80	12.00	PI_\$CLB	12.00	PI		1.00	43.230	43.23
FLAT 17-4 PH H900 1/4 X 4 N 4 X 12' 2 MONTH OFFER SOL ANN A564 HRAP	0.00	4.00	UN	4.00	UN		4.00	296.000	1 184.00
ROND 17-4 H1150 1 3/4" DIA N 1 X 12' R/L 2-3 WEEKS	0.00	1.00	UN	1.00	UN		1.00	612.000	612.00
ROND 17-4 H1150 2 3/4" N 1 X 12' R/L 2-3 WEEKS	0.00	1.00	UN	1.00	UN		1.00	1 476.000	1 476.00
ROUND SS 3/4 303 (R) * RSS-34303 5761 8 X 12' R/L STOCK	144.19	96.00	PI_\$CLB	96.00	PI		8.00	58.208	465.67
FLAT-Q1 1/4 X 3/8 N 4 X 3'	0.00	4.00	UN	4.00	UN	0.00	4.00		0.00
FLAT ALU 3/4 X 6 6061-T6 * FAL-346 2601 1 X 12' STOCK	63.44	12.00	PI_\$CLB	12.00	PI		1.00	218.850	218.85
SURCHARGE ENERGETIQUE FRAIS_ENERGETIQUE			\$						3.95

**Total Weight (Lbs)** 3 842.11**Important**

This offer is based on availability and current pricing conditions that may be revised upon reception of the order.

This offer is subject and conditional to credit approval.

Approved and Accepted by :

Date :

**Sub-total**

20 190.05

TVH-13 \* 2624.71

**Total (\$CAD)****22 814.76**



**ACIER OUELLETTE INC.**

935, Boul. du H vre

Salaberry de Valleyfield (Qu bec) J6S 5L1

T l.: 450-377-4248 M l: 514-336-4248 Ext.: 800-667-4248

Fax: 450-377-5696 M l: 514-336-4246 Ext.: 866-456-4242

**Quotation**

SOU0087982

**Billed to**

DART AEROSPACE LTD

1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7**Customer N **

CLI0001056

**Date**

2018/02/22

**Revision N **

0

**Prices valid until**

2018/03/01

**Your Order N ****Processed by**

Josianne Bourdon

**Salesman**

JOSIANNE

**Carrier**

OUELLE SDV

**Credit Terms**

Net 30 Days

**Page**

1

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE T l.: 613-632-5200

Product N� and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
PLAT 4140 1" X 1 1/4 HT N 1 X 6' 7-10 DAYS	0.00	1.00	UN	1.00	UN		1.00	140.000	140.00
PLAT 4140 1 1/4" X 1 1/2" HT N 1 X 6' 7-10 DAYS	0.00	1.00	UN	1.00	UN		1.00	180.000	180.00
PLAT 4140 1 1/2" X 2" HT N 1 X 6' 7-10 DAYS	0.00	1.00	UN	1.00	UN		1.00	237.000	237.00
ROUND 4140 HEAT TREAT 1 (R) * R4140-1H 4919 1 X 10' STOCK COUPE A LA SCIE SCIE 1	26.70	10.00	PI_\$CLB	10.00	PI		1.00	46.640	46.64
HEXAGONE AL. 2024-T4 5/16" N 1 X 12' 2-3 DAYS	0.00	1.00	UN	1.00	UN		1.00	65.000	65.00
FLAT SS 1/2 X 6 SS304 RANDOM NS FSS-126-V 9086 1 X 6' 2-3 DAYS	61.20	6.00	PI_\$CLB	6.00	PI		1.00	272.920	272.92
PLAT SS304 5/8 X 6 N 1 X 6' 2-3 DAYS	0.00	1.00	UN	1.00	UN		1.00	335.000	335.00
FLAT SS 3/4 X 2 1/2 SS304 RANDOM NS FSS-34212-V 8747 3 X 12' R/L 2-3 DAYS	229.50	36.00	PI_\$CLB	36.00	UN_\$UN		3.00	302.903	908.71
FLAT SS 3/4 X 1 1/2 SS304 NS FSS-34112 9547 1 X 6' 2-3 DAYS	22.98	6.00	PI_\$CLB	6.00	UN_\$UN		1.00	192.100	192.10

Date :

Next Page...

**ACIER OUELLETTE INC.**

935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**Quotation****SOU0087982****Billed to**

DART AEROSPACE LTD

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Customer N°**

CLI0001056

**Date**

2018/02/22

**Revision N°**

0

**Prices valid until**

2018/03/01

**Your Order N°****Processed by**

Josianne Bourdon

**Salesman**

JOSIANNE

**Carrier**

OUELLE SDV

**Credit Terms**

Net 30 Days

**Page**

2

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Product N° and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
SHEET SS 11G SS304-2B (4 X 8) FESS-11G483042B 3402 3 X 4' X 8' STOCK	504.00	96.00	PI2_\$CLB	3.00	UN		3.00	391.356	1 174.07
SHEET SS 18G SS304-2B (4 X 8) FESS-18G483042B 3425 2 X 4' X 8' STOCK	134.40	64.00	PI2_\$CLB	2.00	UN		2.00	171.360	342.72
SHEET SS 16G SS304-2B (4 X 8) FESS-16G483042B 3419 6 X 4' X 8' STOCK	504.00	192.00	PI2_\$CLB	6.00	UN		6.00	208.278	1 249.67
SHEET SS 20G SS304-2B (4 X 8) FESS-20G483042B 3430 3 X 4' X 8' STOCK	150.72	96.00	PI2_\$CLB	3.00	UN		3.00	125.073	375.22
ROND SS304 5 1/2" DIA N 1 X 8' 2-3 DAYS	0.00	1.00	UN	1.00	UN		1.00	2 485.000	2 485.00
ROUND SS 5/8 304 (R) * RSS-58 5777 2 X 12' R/L STOCK	25.03	24.00	PI_\$CLB	24.00	PI		2.00	31.910	63.82
TUBE MEC 0.625 OD X .095 (R) * TME-0625095 6763 1 X 20' R/L 2-3 DAYS	10.76	20.00	PI_\$CPI	20.00	PI		1.00	59.190	59.19
TUBE MEC 0.750 OD X .095 (R) * TME-0750095 8163 1 X 20' R/L 2-3 DAYS	13.30	20.00	PI_\$CPI	20.00	PI		1.00	48.190	48.19
TUBE-MECH.-0.75 X .083 (R) N 1 X 20' R/L 2-3 DAYS	0.00	1.00	UN	1.00	UN		1.00	69.000	69.00
TUBE MEC 1.000 OD X .120 (R) * TME-1000120 6505 1 X 20' R/L STOCK	22.56	20.00	PI_\$CPI	20.00	PI		1.00	49.390	49.39

Date :

Next Page...

**ACIER OUELLETTE INC.**

935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**Quotation****SOU0087982****Billed to**

DART AEROSPACE LTD  
1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Customer N°**

CLI0001056

**Date**

2018/02/22

**Revision N°**

0

**Prices valid until**

2018/03/01

**Your Order N°****Processed by**

Josianne Bourdon

**Salesman**

JOSIANNE

**Carrier**

OUELLE SDV

**Credit Terms**

Net 30 Days

**Page**

3

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Product N° and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
ROUND 4140 HEAT TREAT 1 (R) * R4140-1H 4919 1 X 20' R/L STOCK	53.40	20.00	PI_\$CLB	20.00	PI		1.00	83.280	83.28 4.164
FLAT ALU 1/2 X 12 6061-T6 * FAL-1212 7447 2 X 12' STOCK	169.39	24.00	PI_\$CLB	24.00	PI		2.00	276.065	552.13 23.005
FLAT ALU 1/2 X 5 6061-T6 * FAL-125 2492 2 X 12' STOCK	70.58	24.00	PI_\$CLB	24.00	PI		2.00	116.445	232.89 9.70375
FLAT ALU 3/4 X 4 6061-T6 * FAL-344 2596 1 X 12' STOCK	42.29	12.00	PI_\$CLB	12.00	PI		1.00	125.150	125.15 10.42164
SQUARE ALU 1 6061-T6 * CAL-1 1781 2 X 12' STOCK	28.22	24.00	PI_\$CLB	24.00	PI		2.00	38.940	77.88 13.245
AL. PLAT 1" X 1 3/4" N 1 X 12' 4-7 DAYS	0.00	1.00	UN	1.00	UN		1.00	242.000	242.00
FLAT ALU 1 X 2 6061-T6 * FAL-12 2497 2 X 20' STOCK	96.00	40.00	PI_\$CLB	40.00	PI		2.00	149.255	298.51 7.46275
FLAT ALU 1 1/2 X 2 1/2 6061-T6 * FAL-112212 2439 5 X 12' STOCK	264.36	60.00	PI_\$CLB	60.00	PI		5.00	172.336	861.68 4.36133
CARRE AL. 2 1/4" 6061T6 N 1 X 12' 4-7 DAYS	0.00	1.00	UN	1.00	UN		1.00	386.000	386.00 32.4666
FLAT ALU 1 1/2 X 2 1/2 6061-T6 * FAL-112212 2439 1 X 12' STOCK	52.87	12.00	PI_\$CLB	12.00	PI		1.00	172.340	172.34

Date :

Next Page...

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MK18B1.000x1.000

PO / BATCH NO.: 039126/3048661

DATE: MAR 07 2018

MATERIAL CERT REC'D: yes

THICKNESS ORDERED: 1.000

QUANTITY RECEIVED: 12'

THICKNESS RECEIVED: 1.000

QUANTITY INSPECTED: 12'

SHEET SIZE ORDERED: N/A

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	<u>Agim A108</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	<u>Heat # 411986</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

<b>QC 18 INSPECTION</b>	<b>ENGINEERING SIGNOFF (if required)</b>
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____
DATE: <u>MAR 07 2018</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 1018-1025 ROUND BAR

SPECIFICATION: MIL-S-7097 OR ASTM A108

PART NUMBER: M1018-R D.DDD WHERE D.DDD = DIAMETER IN INCHES  
DIA.

EG. 7/8" ROUND BAR = M1018-R0.875

TOLERANCES: PER ASTM A108 AS FOLLOWS:

SIZE	TOLERANCE
UP TO 1.5" INCL.	+0.000/-0.002
OVER 1.5" TO 2.5" INCL.	+0.000/-0.003
OVER 2.5" TO 4.0" INCL.	+0.000/-0.004
OVER 4.0" TO 6.0" INCL.	+0.000/-0.005
OVER 6.0" TO 8.0" INCL.	+0.000/-0.006

RELEASED  
2012-09-24

B	REFORMAT, ADD ASTM A108, ADD TOLERANCES	CP	12.09.05
A	NEW ISSUE	DS	01.06.12
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	CP		
CHECKED	CP	DRAWING NO.	REV. B
MFG. APPR.		M1018-R	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		1018-1025 ROUND BAR	NTS
DATE	12.09.05	COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M1018R 0.313 <sup>0.375</sup>  
 DATE: MAR 07 2018

PO / BATCH NO: 039126 / 5048317  
5048660

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12'  
 QUANTITY INSPECTED: 12'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.313 0.375  
 THICKNESS RECEIVED: 0.313 0.375  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	<u>Astm A108</u>
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	<u>Heat # 91776 QM</u>
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>11 MAR 07 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 1018-1025 ROUND BAR

SPECIFICATION: MIL-S-7097 OR ASTM A108

PART NUMBER: M1018-R/D.DDD WHERE D.DDD = DIAMETER IN INCHES  
DIA.

EG. 7/8" ROUND BAR = M1018-R0.875

TOLERANCES: PER ASTM A108 AS FOLLOWS:

SIZE	TOLERANCE
UP TO 1.5" INCL.	+0.000/-0.002
OVER 1.5" TO 2.5" INCL.	+0.000/-0.003
OVER 2.5" TO 4.0" INCL.	+0.000/-0.004
OVER 4.0" TO 6.0" INCL.	+0.000/-0.005
OVER 6.0" TO 8.0" INCL.	+0.000/-0.006

RELEASE  
2012-09-24

B	REFORMAT, ADD ASTM A108, ADD TOLERANCES	CP	12.09.05
A	NEW ISSUE	DS	01.06.12
REV	DESCRIPTION	BY	DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	CP		
CHECKED	DS	DRAWING NO.	REV. B
MFG. APPR.	DS	M1018-R	SHEET 1 OF 1
APPROVED	DS	TITLE	SCALE
DE APPR.	DS	1018-1025 ROUND BAR	NTS
DATE	12.09.05	COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRINTED AND CIRCULATED BY THE COMPANY IN THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304B0.750x2.500

PO / BATCH NO.: 039126/5048657

DATE: MAR 07 7<sup>01</sup>8

MATERIAL CERT REC'D: yes

THICKNESS ORDERED: 0.750

QUANTITY RECEIVED: 36'

THICKNESS RECEIVED: 0.750

QUANTITY INSPECTED: 36'

SHEET SIZE ORDERED: N/A

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<u>N</u>	
CORRECT FINISH	<u>Y</u>	N	
CORROSION	Y	<u>N</u>	
CORRECT GRAIN DIRECTION	<u>Y</u>	N	
CORRECT MATERIAL PER M-DRAWING	<u>Y</u>	N	<u>Asm A 276</u>
CORRECT THICKNESS	<u>Y</u>	N	
PHOTO REQUIRED	Y	<u>N</u>	
CORRECT REF # TO LINK CERT	<u>Y</u>	N	<u>Heat # 26600</u>
CORRECT MATERIAL IDENTIFICATION	<u>Y</u>	N	
CORRECT M# ON THE MATERIAL	<u>Y</u>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<u>N</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<u>N</u>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>9-3 MAR 07 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE  
(NOTE: AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION: ASTM A276 OR ASTM A240

PART NUMBER: M304B | T.TTT | X | WW.WWW |  
                                  | THICK |   | WIDTH |

WHERE "T.TTT" = THICKNESS IN INCHES  
AND "WW.WWW" = WIDTH IN INCHES

△ EG. 0.5" x 3.0" BAR = M304B0.500X03.000  
EG. 0.5" X 12.0" PLATE = M304B0.500X12.000

RELEASED  
2010-11-30

C	ADDED PLATE TO PURCHASE MATERIAL, ADDED PLATE RELATED SPECIFICATIONS, AND EG.: CHANGED TITLE FROM "304/316 BAR" TO "304/316 BAR/PLATE"	MB	10.11.25
B	REFORMAT DWG, ADD SPECS (ZN D8-1), REF PAR 08-020A	CP	09.07.15
A	NEW ISSUE	PH	05.06.10
REV.	DESCRIPTION	BY	DATE
DESIGN	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>M304B</b> REV. C TITLE <b>304/316 BAR/PLATE</b> SCALE NTS DATE <b>10.11.25</b>		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.	<small>COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>		

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061T680.750X04.000 PO / BATCH NO.: 039126/5048656  
 DATE: MAR 07 2018

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12'  
 QUANTITY INSPECTED: 12'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.750  
 THICKNESS RECEIVED: 0.750  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y N	<u>Aston B221</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y N	<u>Test # 70740</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>9-03 MAR 07 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR

SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6B | T.TTT | X | WW.WWW  
THICK | WIDTH

WHERE "T.TTT" = THICKNESS IN INCHES  
"WW.WWW" = WIDTH IN INCHES

E.G. 1.0" X 12.0" BAR = M6061T6B1.000X12.000

**RELEASED**  
2009-05-03

B	REMOVE QQ-A-250/11 OPTION, REFORMAT NOTES, ADD ASTM B211/B221 (ZND7-1)	CP	09.07.13
A	NEW ISSUE	DS	01.06.08
REV	DESCRIPTION	BY	DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>M6061T6B</b> REV. B MFG. APPR. <i>[Signature]</i> SHEET 1 OF 1 APPROVED <i>[Signature]</i> TITLE <b>6061-T6 BAR</b> SCALE DE APPR. <i>[Signature]</i> NTS DATE <b>09.07.13</b>	
DRAWN	<i>[Signature]</i>		
CHECKED	<i>[Signature]</i>		
MFG. APPR.	<i>[Signature]</i>		
APPROVED	<i>[Signature]</i>		
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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M606176B2.C00X01.250 PO / BATCH NO.: 039126/5048655  
 DATE: MAR 07 2018

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12'  
 QUANTITY INSPECTED: 12'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 01.250  
 THICKNESS RECEIVED: 01.250  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<u>(N)</u>	
CORRECT FINISH	<u>(Y)</u>	N	
CORROSION	Y	<u>(N)</u>	
CORRECT GRAIN DIRECTION	<u>(Y)</u>	N	
CORRECT MATERIAL PER M-DRAWING	<u>(Y)</u>	N	<u>Astm B221</u>
CORRECT THICKNESS	<u>(Y)</u>	N	
PHOTO REQUIRED	Y	<u>(N)</u>	
CORRECT REF # TO LINK CERT	<u>(Y)</u>	N	<u>Heat # 3B5790</u>
CORRECT MATERIAL IDENTIFICATION	<u>(Y)</u>	N	
CORRECT M# ON THE MATERIAL	<u>(Y)</u>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<u>(N)</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<u>(N)</u>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAN</u>	DATE: <u>MAR 07 2018</u>	SIGNED OFF BY: _____	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR

SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6B | T.TTT | X | WW.WWW  
| THICK | | WIDTH |

WHERE "T.TTT" = THICKNESS IN INCHES  
"WW.WWW" = WIDTH IN INCHES

E.G. 1.0" X 12.0" BAR = M6061T6B1.000X12.000

**RELEASED**  
2009-09-03

B	REMOVE QQ-A-250/11 OPTION, REFORMAT NOTES, ADD ASTM B211/B221 (ZN D7-1)	CP	09.07.13
A	NEW ISSUE	DS	01.06.08
REV	DESCRIPTION	BY	DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>[Signature]</i>	DRAWING NO.	REV. B
CHECKED	<i>[Signature]</i>	M6061T6B	SHEET 1 OF 1
MFG. APPR.	<i>[Signature]</i>	TITLE	SCALE
APPROVED	<i>[Signature]</i>	6061-T6 BAR	NTS
DE APPR.	<i>[Signature]</i>	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DATE	09.07.13		



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-A513 TL 000W.120

PO / BATCH NO.: 039126/5048654

DATE: MAR 07 2018

MATERIAL CERT REC'D: yes

THICKNESS ORDERED: W.120

QUANTITY RECEIVED: 23'

THICKNESS RECEIVED: W.120

QUANTITY INSPECTED: 23'

SHEET SIZE ORDERED: N/A

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	<u>Aston A513</u>
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	<u>Heat # D32954</u>
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAC</u>	SIGNED OFF BY: _____		
DATE: <u>MAR 07 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW RELEASE	17-855	17.09.06	VM	WM
B	TYPE 5 ADDED, TEMPLATE UPDATED	17-790	17.12.13	VM	ML

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING (DOM)

SPECIFICATION: ASTM A513 TYPE 5

PART NUMBER: MT-A513-T-[D.DDD]W[T.TTT]

WHERE D.DDD IS OUTSIDE DIAMETER IN INCHES

WHERE T.TTT IS WALL THICKNESS IN INCHES

EG. 3/4" ROUND TUBING WITH .120" WALL THICKNESS = MT-A513-T-0.750W0.120

<b>DART</b> AEROSPACE		Hemelburg, Ontario, Canada	
TITLE ASTM A513 TYPE 5 (1020/1026) ALLOY STEEL ROUND TUBING (DOM)			
PART NO. <b>MT-A513-T</b>		REV <b>B</b>	
TOOL NO. -		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES INTERPRET PER ASME Y14.5M-2009 DIMENSIONS APPLY AFTER FINISHING	
INITIALS AND DATE		TOLERANCES	
DESIGNED BY: VM 17/12/13		XXX ± .005	FRACTIONS ± 1/8
DRAWN BY: VM 12/13/2017		XX ± .01	ANGLES ± .5°
CHECKED BY: ML 12/20/2017		X ± .1	SURFACE
MFG REVIEW BY: DP 12/20/2017			ROUGHNESS
APPROVED BY: ML 12/20/2017		SCALE: NTS	SHEET 1 OF 1
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## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304RO.625  
 DATE: MAR 07 2018

PO / BATCH NO.: 039126 / 5048653

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 26'  
 QUANTITY INSPECTED: 26'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.625  
 THICKNESS RECEIVED: 0.625  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	N	<u>As per A276</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	<u>Heat # 439067</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> DATE: <u>MAR 07 2018</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS ROUND BAR  
(NOTE: AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION: ASTM A276

PART NUMBER: M304R | D.DDD |  
DIA.

WHERE "D.DDD" = DIAMETER IN INCHES

EG. 0.75" ROUND BAR = M304R0.750

**RELEASED**  
9/10/25/14

B	REFORMAT DWG. ADD SPECS (ZN D6-1). REF PAR 08-020A	CP	09.07.15
A	NEW ISSUE	AJS	08.03.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>M304R</b> TITLE <b>304/316 ROUND BAR</b> SCALE <b>NTS</b>	
DRAWN	AS		
CHECKED	AS		
MFG. APPR.	AS		
APPROVED	AS		
DE APPR.	AS	SHEET 1 OF 1	
DATE	09.07.15	COPYRIGHT © 2008 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED FOR DISSEMINATION TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304R5.500  
DATE: MAR 07 2018

PO / BATCH NO.: 039126/5048652

MATERIAL CERT REC'D: yes  
QUANTITY RECEIVED: 8'  
QUANTITY INSPECTED: 8'  
QUANTITY REJECTED: 0

THICKNESS ORDERED: 5.500  
THICKNESS RECEIVED: 5.500  
SHEET SIZE ORDERED: N/A  
SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	<u>Agitor A276</u>
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	<u>Heat # 41297</u>
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>9-30 MAR 07 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS ROUND BAR  
(NOTE: AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION: ASTM A276

PART NUMBER: M304R | D.DDD |  
DIA.

WHERE "D.DDD" = DIAMETER IN INCHES

EG. 0.75" ROUND BAR = M304R0.750

RELEASED  
9/10/25/ML

B	REFORMAT DWG, ADD SPECS (ZN D6-1), REF PAR 08-020A	CP	09.07.15
A	NEW ISSUE	AJS	08.03.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	qj		
CHECKED	MD		
MFG. APPR.	MD		
APPROVED	MD		
DE APPR.	MD	REV. B	
DATE	09.07.15	SHEET 1 OF 1	
		SCALE	
		NTS	
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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061H65.250  
 DATE: MAR 07 2018

PO / BATCH NO.: 039126/5042659

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 32 P12  
 QUANTITY INSPECTED: 32 P12  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .250  
 THICKNESS RECEIVED: .250  
 SHEET SIZE ORDERED: 4x8  
 SHEET SIZE RECEIVED: 4x8

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	<u>QQ-A-250/11</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	<u>Heat # 16-39426053</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>9-30</u>	DATE: _____		
<u>MAR 07 2018</u>			

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6/T62 ALUMINUM SHEET

SPECIFICATION: *Handwritten: 6061-T6*  
 QQ-A-250/11 OR AMS-QQ-A-250/11  
 OR AMS 4025 OR AMS 4027  
 OR ASTM B209

PART NUMBER: M6061T6S | XXX  
 THK |

WHERE ".XXX" = SHEET THICKNESS (IN INCHES)

EG. 0.063" THICK SHEET = M6061T6S.063

PREFERRED SIZE: .XXX BY 4FT BY 8FT

**RELEASED**  
 2009-09-10

REV.	DESCRIPTION	CP	DATE																				
B	REFORMAT DWG. ADD B209 SPEC (ZN D6-1). REF PAR 08-020A		09.07.13																				
A	NEW ISSUE	DS	01.06.08																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">DESIGN</td> <td style="width: 30%;"><i>Handwritten: [Signature]</i></td> <td colspan="2" rowspan="5" style="text-align: center; vertical-align: top;"> <b>DART AEROSPACE LTD</b>            HAWKESBURY, ONTARIO, CANADA             DRAWING NO.  <b>M6061T6S</b>             TITLE  <b>6061-T6 SHEET SPEC</b> </td> </tr> <tr> <td>DRAWN</td> <td><i>Handwritten: [Signature]</i></td> </tr> <tr> <td>CHECKED</td> <td><i>Handwritten: [Signature]</i></td> </tr> <tr> <td>MFG. APPR.</td> <td><i>Handwritten: [Signature]</i></td> </tr> <tr> <td>APPROVED</td> <td><i>Handwritten: [Signature]</i></td> </tr> <tr> <td>DE APPR.</td> <td><i>Handwritten: [Signature]</i></td> <td style="width: 30%;">REV. B</td> <td style="width: 10%;">SHEET 1 OF 1</td> </tr> <tr> <td>DATE</td> <td>09.07.13</td> <td colspan="2">SCALE NTS</td> </tr> </table>				DESIGN	<i>Handwritten: [Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA  DRAWING NO. <b>M6061T6S</b>  TITLE <b>6061-T6 SHEET SPEC</b>		DRAWN	<i>Handwritten: [Signature]</i>	CHECKED	<i>Handwritten: [Signature]</i>	MFG. APPR.	<i>Handwritten: [Signature]</i>	APPROVED	<i>Handwritten: [Signature]</i>	DE APPR.	<i>Handwritten: [Signature]</i>	REV. B	SHEET 1 OF 1	DATE	09.07.13	SCALE NTS	
DESIGN	<i>Handwritten: [Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA  DRAWING NO. <b>M6061T6S</b>  TITLE <b>6061-T6 SHEET SPEC</b>																					
DRAWN	<i>Handwritten: [Signature]</i>																						
CHECKED	<i>Handwritten: [Signature]</i>																						
MFG. APPR.	<i>Handwritten: [Signature]</i>																						
APPROVED	<i>Handwritten: [Signature]</i>																						
DE APPR.	<i>Handwritten: [Signature]</i>	REV. B	SHEET 1 OF 1																				
DATE	09.07.13	SCALE NTS																					

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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061H6S.050  
 DATE: MAR 07 2018

PO / BATCH NO.: 039126/5048658

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 96 P12  
 QUANTITY INSPECTED: 96 P12  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .050  
 THICKNESS RECEIVED: .050  
 SHEET SIZE ORDERED: 4X12  
 SHEET SIZE RECEIVED: 4X12

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	QQ-A-250/11
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	Heat# 32115701
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>DAS</u> <u>11</u>	SIGNED OFF BY: _____		
DATE: <u>9-29</u> MAR 07 2018	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6/T62 ALUMINUM SHEET

SPECIFICATION: *N* QQ-A-250/11 OR AMS-QQ-A-250/11  
OR AMS 4025 OR AMS 4027  
OR ASTM B209

PART NUMBER: M6061T6S | XXX  
THK

WHERE ".XXX" = SHEET THICKNESS (IN INCHES)

EG. 0.063" THICK SHEET = M6061T6S.063

PREFERRED SIZE: .XXX BY 4FT BY 8FT

**RELEASED**  
2009-09-10  
*MAF*

B	REFORMAT DWG, ADD B209 SPEC (ZN D8-1), REF PAR 08-020A	CP	09 07 13
A	NEW ISSUE	DS	01 06 08
REV	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>[Signature]</i>	DRAWING NO.	REV. B
CHECKED	<i>[Signature]</i>	M6061T6S	SHEET 1 OF 1
MFG. APPR.	<i>[Signature]</i>	TITLE	SCALE
APPROVED	<i>[Signature]</i>	6061-T6 SHEET SPEC	NTS
DE APPR.	<i>[Signature]</i>	COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PREPARED AND SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	
DATE	09.07.13		

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304S 206A  
DATE: MAR 07 2018

PO / BATCH NO.: 039126/5048651

MATERIAL CERT REC'D: yes  
QUANTITY RECEIVED: 96 P<sup>2</sup>  
QUANTITY INSPECTED: 96 P<sup>2</sup>  
QUANTITY REJECTED: 0

THICKNESS ORDERED: 206A  
THICKNESS RECEIVED: 206A  
SHEET SIZE ORDERED: 4x8  
SHEET SIZE RECEIVED: 4x8

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	Asme SA 240
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat # 893274
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>D. 11</u>	SIGNED OFF BY: _____		
DATE: <u>9-07 MAR 07 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SHEET  
ANNEALED

SPECIFICATION: MIL-S-5059  
OR AMS 5513 (304)  
OR AMS 5524 (316)  
OR ASTM A240  
OR ASME SA240

FINISH:

FINISH	DART M-NUMBER IDENTIFIER
UNPOLISHED No. 1	1P
UNPOLISHED No. 2D	2D
UNPOLISHED No. 2B	NONE
POLISHED No. 3	3P
POLISHED No. 4	4P
BUFFED No. 6	6P
BUFFED No. 7	7P
BUFFED No. 8	8P

PART NUMBER: M304S TT GA #P

WHERE "TT" = GAUGE THICKNESS  
WHERE "#P" = FINISH IDENTIFIER

EG. 16 GAUGE SS SHEET 2B FINISH = M304S16GA  
EG. 16 GAUGE SS SHEET No. 4 POLISHED = M304S16GA4P

GAUGE THICKNESS REFERENCE:

GAUGE	NOM. THICK. (IN)	THICKNESS RANGE (IN)
26	0.01875	0.0178 - 0.019
25	0.021875	0.0199 - 0.023
24	0.025	0.024 - 0.026
23	0.028125	0.027 - 0.029
22	0.03125	0.030 - 0.032
21	0.034375	0.033 - 0.035
20	0.0375	0.036 - 0.040
19	0.04375	0.041 - 0.046
18	0.050	0.047 - 0.052
17	0.05625	0.053 - 0.058
16	0.0625	0.059 - 0.065
15	0.0703125	0.066 - 0.072
14	0.078125	0.073 - 0.083
13	0.09375	0.084 - 0.098
12	0.109375	0.099 - 0.114
11	0.125	0.115 - 0.130
10	0.140625	0.131 - 0.145
9	0.15625	0.146 - 0.160
8	0.171875	0.161 - 0.176
7	0.1875	0.182 - 0.194
6	0.2031	0.194 - 0.212
5	0.2188	0.201 - 0.228
4	0.2344	0.225 - 0.243
3	0.2500	0.238 - 0.262
2	0.2656	0.254 - 0.278
1	0.2813	0.269 - 0.293
0	0.3125	0.301 - 0.325

**RELEASED**

2015 FEB 04

ECN 15-322 4

REV.	DESCRIPTION	BY	DATE
D	ADDED GAUGES 0-7.	AJS	15.01.06
C	DEFINED FINISH OPTION (ZN C8) AND EXAMPLE OF MATERIAL P/N WITH FINISH OTHER THAN 2B (ZN B5).	MB	12.09.20
B	REFORMAT DWG, ADD ASTM/ASME SPECS (ZN D8-1), ADD GAUGE REF (C8-1), REF PAR 08-020A	CP	09.06.01
A	NEW ISSUE	DS	01.09.24

DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>M304S</b> TITLE <b>304/316 SS SHEET</b> SCALE <b>NTS</b> DATE <b>15.01.06</b>
DRAWN	AJS	
CHECKED		
MFG. APPR.		
DE APPR.		

REV. D  
SHEET 1 OF 1

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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M3045166A  
DATE: MAR 07 2018

PO / BATCH NO.: 039126/5048650

MATERIAL CERT REC'D: yes  
QUANTITY RECEIVED: 192<sup>PI</sup>  
QUANTITY INSPECTED: 192<sup>PI</sup>  
QUANTITY REJECTED: 0

THICKNESS ORDERED: 16GA  
THICKNESS RECEIVED: 16GA  
SHEET SIZE ORDERED: 4X8  
SHEET SIZE RECEIVED: 4X8

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	ASTM A240
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat # 514212
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>9-30 MAR 07 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SHEET  
ANNEALED

SPECIFICATION: MIL-S-5059  
OR AMS 5513 (304)  
OR AMS 5524 (316)  
OR ASTM A240  
OR ASME SA240

FINISH:

FINISH IDENTIFIER	DART M-NUMBER IDENTIFIER
UNPOLISHED No. 1	1P
UNPOLISHED No. 2D	2D
UNPOLISHED No. 2B	NONE
POLISHED No. 3	3P
POLISHED No. 4	4P
BUFFED No. 6	6P
BUFFED No. 7	7P
BUFFED No. 8	8P

PART NUMBER: M304S TT GA #P  
[GA]

WHERE "TT" = GAUGE THICKNESS  
WHERE "#P" = FINISH IDENTIFIER

EG. 16 GAUGE SS SHEET 2B FINISH = M304S16GA  
EG. 16 GAUGE SS SHEET No. 4 POLISHED = M304S16GA4P

GAUGE THICKNESS REFERENCE:

GAUGE	NOM. THICK. (IN)	THICKNESS RANGE (IN)
26	0.01875	0.0178 - 0.019
25	0.021875	0.0199 - 0.023
24	0.025	0.024 - 0.026
23	0.028125	0.027 - 0.029
22	0.03125	0.030 - 0.032
21	0.034375	0.033 - 0.035
20	0.0375	0.036 - 0.040
19	0.04375	0.041 - 0.046
18	0.050	0.047 - 0.052
17	0.05625	0.053 - 0.058
16	0.0625	0.059 - 0.065
15	0.0703125	0.066 - 0.072
14	0.078125	0.073 - 0.083
13	0.09375	0.084 - 0.098
12	0.109375	0.099 - 0.114
11	0.125	0.115 - 0.130
10	0.140625	0.131 - 0.145
9	0.15625	0.146 - 0.160
8	0.171875	0.161 - 0.176
7	0.1875	0.182 - 0.194
6	0.2031	0.194 - 0.212
5	0.2188	0.201 - 0.228
4	0.2344	0.225 - 0.243
3	0.2500	0.238 - 0.262
2	0.2656	0.254 - 0.278
1	0.2813	0.269 - 0.293
0	0.3125	0.301 - 0.325

**RELEASED**

2015 FEB 04

ECN 15-522 CP

D	ADDED GAUGES 0-7.	AJS	15.01.06
C	DEFINED FINISH OPTION (ZN C8) AND EXAMPLE OF MATERIAL PIN WITH FINISH OTHER THAN 2B (ZN 85)	MB	12.09.20
B	REFORMAT DWG. ADD ASTM/ASME SPECS (ZN D8-1), ADD GAUGE REF (C8-1), REF PAR 08-020A	CP	09.06.01
A	NEW ISSUE	DS	01.09.24
REV	DESCRIPTION	BY	DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		M304S	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		304/316 SS SHEET	NTS
DATE	15.01.06	COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304S186A  
 DATE: MAR 07 2018

PO / BATCH NO.: 039126/5048649

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 64P<sup>12</sup>  
 QUANTITY INSPECTED: 64P<sup>12</sup>  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 186A  
 THICKNESS RECEIVED: 186A  
 SHEET SIZE ORDERED: 4x8  
 SHEET SIZE RECEIVED: 4x8

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y N	ASME SA240
CORRECT THICKNESS	<input checked="" type="radio"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y N	Heat # L2573C03
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u>	SIGNED OFF BY: _____	
DATE: <u>9-89</u> <u>MAR 07 2018</u>	DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SHEET  
ANNEALED

SPECIFICATION: MIL-S-5059  
OR AMS 5513 (304)  
OR AMS 5524 (316)  
OR ASTM A240  
OR ASME SA240

FINISH:

FINISH	DART M-NUMBER
UNPOLISHED No. 1	IDENTIFIER
UNPOLISHED No. 2D	1P
UNPOLISHED No. 2B	2D
POLISHED No. 3	NONE
POLISHED No. 4	3P
BUFFED No. 6	4P
BUFFED No. 7	6P
BUFFED No. 8	7P
	8P

PART NUMBER: M304S TT GA #P  
[GA]

WHERE "TT" = GAUGE THICKNESS  
WHERE "#P" = FINISH IDENTIFIER

EG. 16 GAUGE SS SHEET 2B FINISH = M304S16GA  
EG. 16 GAUGE SS SHEET No. 4 POLISHED = M304S16GA4P

GAUGE THICKNESS REFERENCE:

GAUGE	NOM. THICK. (IN)	THICKNESS RANGE (IN)
26	0.01875	0.0178 - 0.019
25	0.021875	0.0199 - 0.023
24	0.025	0.024 - 0.026
23	0.028125	0.027 - 0.029
22	0.03125	0.030 - 0.032
21	0.034375	0.033 - 0.035
20	0.0375	0.036 - 0.040
19	0.04375	0.041 - 0.046
18	0.050	0.047 - 0.052
17	0.05625	0.053 - 0.058
16	0.0625	0.059 - 0.065
15	0.0703125	0.066 - 0.072
14	0.078125	0.073 - 0.083
13	0.09375	0.084 - 0.098
12	0.109375	0.099 - 0.114
11	0.125	0.115 - 0.130
10	0.140625	0.131 - 0.145
9	0.15625	0.146 - 0.160
8	0.171875	0.161 - 0.176
7	0.1875	0.182 - 0.194
6	0.2031	0.194 - 0.212
5	0.2188	0.201 - 0.228
4	0.2344	0.225 - 0.243
3	0.2500	0.238 - 0.262
2	0.2656	0.254 - 0.278
1	0.2813	0.269 - 0.293
0	0.3125	0.301 - 0.325

△

**RELEASED**

2015 FEB 04

ECN 15-522 4

D	ADDED GAUGES 0-7.	AJS	15.01.06
C	DEFINED FINISH OPTION (ZN C8) AND EXAMPLE OF MATERIAL P/N WITH FINISH OTHER THAN 2B (ZN B5)	MB	12.09.20
B	REFORMAT DWG. ADD ASTM/ASME SPECS (ZN D8-1), ADD GAUGE REF (C8-1), REF PAR 08-020A	CP	09.06.01
A	NEW ISSUE	DS	01.09.24
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		M304S	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		304/316 SS SHEET	NTS
DATE	15.01.06	COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M3045116A  
 DATE: MAR 07 2018

PO / BATCH NO.: P0039126/5048648

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 96 Pcs  
 QUANTITY INSPECTED: 96 Pcs  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 116A  
 THICKNESS RECEIVED: 116A  
 SHEET SIZE ORDERED: 4x8  
 SHEET SIZE RECEIVED: 4x8

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	N	
CORRECT FINISH	Y	N	
CORROSION	Y	N	
CORRECT GRAIN DIRECTION	Y	N	
CORRECT MATERIAL PER M-DRAWING	Y	N	Astm A240
CORRECT THICKNESS	Y	N	
PHOTO REQUIRED	Y	N	
CORRECT REF # TO LINK CERT	Y	N	Heat #459P
CORRECT MATERIAL IDENTIFICATION	Y	N	
CORRECT M# ON THE MATERIAL	Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>DAS</u>		SIGNED OFF BY: _____	
DATE: <u>9-89 MAR 07 2018</u>		DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SHEET  
ANNEALED

SPECIFICATION:

MIL-S-5059  
OR AMS 5513 (304)  
OR AMS 5524 (316)  
OR ASTM A240  
OR ASME SA240

FINISH:

FINISH IDENTIFIER  
1P UNPOLISHED No. 1  
2D UNPOLISHED No. 2B  
3P POLISHED No. 3  
4P POLISHED No. 4  
6P BUFFED No. 6  
7P BUFFED No. 7  
8P BUFFED No. 8

PART NUMBER:

M304S TT GA #P  
[GA]

WHERE "TT" = GAUGE THICKNESS  
WHERE "#P" = FINISH IDENTIFIER

EG. 16 GAUGE SS SHEET 2B FINISH = M304S16GA  
EG. 16 GAUGE SS SHEET No. 4 POLISHED = M304S16GA4P

GAUGE THICKNESS REFERENCE:

GAUGE	NOM. THICK. (IN)	THICKNESS RANGE (IN)
26	0.01875	0.0178 - 0.019
25	0.021875	0.0199 - 0.023
24	0.025	0.024 - 0.026
23	0.028125	0.027 - 0.029
22	0.03125	0.030 - 0.032
21	0.034375	0.033 - 0.035
20	0.0375	0.036 - 0.040
19	0.04375	0.041 - 0.046
18	0.050	0.047 - 0.052
17	0.05625	0.053 - 0.059
16	0.0625	0.059 - 0.065
15	0.0703125	0.066 - 0.072
14	0.078125	0.073 - 0.083
13	0.09375	0.084 - 0.098
12	0.109375	0.099 - 0.114
11	0.125	0.115 - 0.130
10	0.140625	0.131 - 0.145
9	0.15625	0.146 - 0.160
8	0.171875	0.161 - 0.176
7	0.1875	0.182 - 0.194
6	0.2031	0.194 - 0.212
5	0.2188	0.201 - 0.228
4	0.2344	0.225 - 0.243
3	0.2500	0.238 - 0.262
2	0.2656	0.254 - 0.278
1	0.2813	0.269 - 0.293
0	0.3125	0.301 - 0.325

RELEASED

2015 FEB 04

ECN 15-122

D	ADDED GAUGES 0.7.	AJS	15.01.06
C	DEFINED FINISH OPTION (ZN CB) AND EXAMPLE OF MATERIAL FIN WITH FINISH OTHER THAN 2B (ZN BS).	MB	12.09.20
B	REFORMAT DWG. ADD. ASTM/ASME SPECS (ZN DB-1), ADD GAUGE REF (CB-1), REF PAR 09-020A	CP	09.06.01
A	NEW ISSUE	DS	01.09.24
REV	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	15.01.06		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M304S			
TITLE 304/316 SS SHEET			
REV. D SHEET 1 OF 1			
SCALE NTS			
COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED ONLY FOR THE PURPOSES FOR WHICH IT WAS ISSUED. DART AEROSPACE LTD			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304BCL625X6.000  
 DATE: MAR 07 2018

PO / BATCH NO.: 039126/5048647

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 6  
 QUANTITY INSPECTED: 6  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.625  
 THICKNESS RECEIVED: 0.625  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	<u>Astm A240</u>
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	<u>Heat # 702625E</u>
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>11</u> DATE: <u>MAR 07 2018</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

△ C PURCHASE MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE  
(NOTE: AISI 303 NOT ACCEPTABLE)

△ C SPECIFICATION: ASTM A276 OR ASTM A240 *XL*

PART NUMBER: M304B | T.TTT | X | WW.WWW |  
| THICK | | WIDTH |

WHERE "T.TTT" = THICKNESS IN INCHES  
AND "WW.WWW" = WIDTH IN INCHES

△ C EG. 0.5" x 3.0" BAR = M304B0.500X03.000  
EG. 0.5" X 12.0" PLATE = M304B0.500X12.000

RELEASED  
2010-11-30  
*W*

C	ADDED PLATE TO PURCHASE MATERIAL, ADDED PLATE RELATED SPECIFICATIONS, AND EG., CHANGED TITLE FROM "304/316 BAR" TO "304/316 BAR/PLATE"	MB	10.11.25
B	REFORMAT DWG, ADD SPECS (ZIN D8-1), REF PAR D8-020A	CP	09.07.15
A	NEW ISSUE	PH	05.08.10
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>PH</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>M304B</b> TITLE <b>304/316 BAR/PLATE</b> SCALE <b>NTS</b> DATE <b>10.11.25</b>	
DRAWN	<i>PH</i>		
CHECKED	<i>PH</i>		
MFG. APPR.	<i>PH</i>		
APPROVED	<i>PH</i>		
DE APPR.	<i>PH</i>	REV. C SHEET 1 OF 1	
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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304B 0.500x6.000  
 DATE: MAR 07 2018

PO / BATCH NO.: 039126/5048646

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 6'  
 QUANTITY INSPECTED: 6'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.500  
 THICKNESS RECEIVED: 0.500  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<u>(N)</u>	
CORRECT FINISH	<u>(Y)</u>	N	
CORROSION	Y	<u>(N)</u>	
CORRECT GRAIN DIRECTION	<u>(Y)</u>	N	
CORRECT MATERIAL PER M-DRAWING	<u>(Y)</u>	N	<u>Astm A276</u>
CORRECT THICKNESS	<u>(Y)</u>	N	
PHOTO REQUIRED	Y	<u>(N)</u>	
CORRECT REF # TO LINK CERT	<u>(Y)</u>	N	<u>Heat # 600J</u>
CORRECT MATERIAL IDENTIFICATION	<u>(Y)</u>	N	
CORRECT M# ON THE MATERIAL	<u>(Y)</u>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<u>(N)</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<u>(N)</u>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>[Signature]</u> DATE: <u>9-MAR 07 2018</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



# SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE  
(NOTE: AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION: ASTM A276 OR ASTM A240

PART NUMBER: M304B | T.TTT | X | WW.WWW |  
THICK | WIDTH

WHERE "T.TTT" = THICKNESS IN INCHES  
AND "WW.WWW" = WIDTH IN INCHES

△ EG. 0.5" x 3.0" BAR = M304B0.500X03.000  
EG. 0.5" X 12.0" PLATE = M304B0.500X12.000

RELEASED  
2010-11-30

C	ADDED PLATE TO PURCHASE MATERIAL, ADDED PLATE RELATED SPECIFICATIONS, AND EG.: CHANGED TITLE FROM "304/316 BAR" TO "304/316 BAR/PLATE"	MB	10.11.25
B	REFORMAT DWG, ADD SPECS (ZN D6-1), REF PAR 08-020A	CP	09.07.15
A	NEW ISSUE	PH	05.06.10
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>M304B</b> TITLE <b>304/316 BAR/PLATE</b> DATE <b>10.11.25</b>	
DRAWN	PH		
CHECKED	PH		
MFG. APPR.	PH		
APPROVED	PH		
DE APPR.	PH	REV. C SHEET 1 OF 1 SCALE NTS	
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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4140H-R1.000  
 DATE: MAR 07 2018

PO / BATCH NO.: 039126/5048645

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 10  
 QUANTITY INSPECTED: 10  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.000  
 THICKNESS RECEIVED: 1.000  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	Astm A304
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	Heat # 177569
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>31</u>	SIGNED OFF BY: _____		
DATE: <u>9:00 MAR 07 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. M4140H-R	REV. A SHEET 1 OF 1
DATE 05.02.21		TITLE 4140 ROUND BAR	SCALE 1:1
A	05.02.21	NEW ISSUE	

PURCHASE MATERIAL: AISI 4140H ROUND BAR

PER AISI 4140 OR ASTM A304 02 / -A-434-BC /

-A193-03-GRADE-B7 / -A29-03 / -A322-91 OR

UNS # - G41400

MINIMUM ULTIMATE TENSILE STRENGTH = 100 ksi

MINIMUM YIELD TENSILE STRENGTH = 66 ksi

PART NUMBER: M4140H-R | D.DDD | WHERE D.DDD = DIAMETER IN INCHES  
DIA

EG.  $\frac{7}{8}$ " ROUND BAR = M4140H-R0.875

RELEASED  
15 05 75

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#4919

R4140-1H-✓

P0.12367

49633

3P.

## Eaton Steel Bar Company Inspection Certificate 1686880

EN 10204:2004-3.1

BOL	Ship Date	Customer PO	Item	Customer Item	Item Description
222244	13-Dec-2017	B38384	11142 rev 005	506295	1 HR RD 4140/42MM 24ft6in SBQ QTSF FG MST

All bundles listed below were produced using steel from Heat 177569 Issued by ALTON STEEL and were completed from Eaton Steel Job 628517.

Chemistry	Description	Value	Units	Mechanical	Description	Value	Units
C	Carbon	0.41000	PWGT	TENSILE PSI	Tensile Strength in PSI Units	148000	PSI
Mn	Manganese	0.89000	PWGT	YIELD PSI	Yield Strength in PSI Units	138000	PSI
P	Phosphorus	0.01300	PWGT	ELONGATION	Percent Elongation	17.00	PCT
S	Sulfur	0.02000	PWGT	REDUCTION	Percent Reduction in Area	52.0	PCT
Si	Silicon	0.23000	PWGT	BRINELL SURF	Brinell Surface	271.0	BHN
Ni	Nickel	0.08900	PWGT	Heat Treating	Description	Value	Units
Cr	Chromium	0.84700	PWGT	TEMPER TEMP F	Temper Temp in Fahrenheit	500 - 2500	DEGF
Mo	Molybdenum	0.15900	PWGT	AUSTEN TEMP F	Austenitize Temp in Fahrenheit	1600 - 1700	DEGF
Al	Aluminum	0.00300	PWGT	SR TEMP F	Stress Relief Temp in Fahrenheit	500 - 2500	DEGF
Cu	Copper	0.25000	PWGT	MAGNETISM-HT	Magnetism in Gauss	0 - 20	GN
V	Vanadium	0.02800	PWGT	TIME AT TEMP	Time at Temperature	Report	.
Cb	Columbium	0.00300	PWGT	QUENCH MEDIA	Quench Media Requirements	P&W/O	.
N	Nitrogen	0.01100	PWGT	STRESS FREE	Cert stress free	CERTIFIED	.
P+S	Element Sum Limit	0.03300	PWGT	HT4140-42QT	Quench & Temper	CONFORMS	.
DI	Ideal Diameter	4.94000	IN	MHI Processing	Description	Value	Units
Cleanliness	Description	Value	Units	MELT COUNTRY	Melted in Country	USA	.
MACRO ETCH	Report macro etch results.	.	.	ROLLED COUNTRY	Rolled in Country	USA	.
Geometry	Description	Value	Units	RED RATIO	Reduction Ratio	4.94	RED
DIAMETER	Diameter	0.9910 - 1.0090	IN	ASTM Standard	Description	Value	Units
Jominy	Description	Value	Units	A193/193M-01	Grade B7	CONFORMS	.
J1	1/16 inch from Quenched End	56	HRC	A304-05	Carbon & Alloy Steel Bars End Quench Req	CONFORMS	.
J2	2/16 inch from Quenched End	56	HRC	A322-13	Steel Bars, Alloy, Standard Grades	CONFORMS	.
J3	3/16 inch from Quenched End	56	HRC	A434-90a-BC	ASTMA BC Tensile and Yield properties	CONFORMS	.
J4	4/16 inch from Quenched End	56	HRC	Structure	Description	Value	Units
J5	5/16 inch from Quenched End	56	HRC	PERCENT TM	Percent Tempered Martensite	80 - 100	PCT
J6	6/16 inch from Quenched End	55	HRC	MICROSTRUCTURE	Reported Microstructure	TM	.
J7	7/16 inch from Quenched End	54	HRC	Tag Number	Qty Units	Length	
J8	8/16 inch from Quenched End	52	HRC	022-2158147	2925 LBS	24ft6in	
J9	9/16 inch from Quenched End	51	HRC				
J10	10/16 inch from Quenched End	50	HRC				
J11	11/16 inch from Quenched End		HRC				
J12	12/16 inch from Quenched End	47	HRC				
J14	14/16 inch from Quenched End	45	HRC				
J16	16/16 inch from Quenched End	42	HRC				
J18	18/16 inch from Quenched End	42	HRC				
J20	20/16 inch from Quenched End	41	HRC				
J22	22/16 inch from Quenched End		HRC				
J24	24/16 inch from Quenched End	39	HRC				
J28	28/16 inch from Quenched End	36	HRC				
J32	32/16 inch from Quenched End	35	HRC				

Bundle tags with Eaton Steel identifiers reference the steel grade, heat, purchase order number where applicable, part number, product description and quantity. Material produced in accordance with Eaton Steel's Quality Manual QM-00002 Rev 0 dated 11/21/2013.

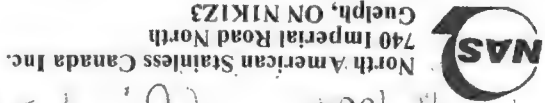
We hereby certify the above to be in conformance, and a true copy of data represented in company records. This steel was not subject to weld repair or exposed to mercury while in the possession of Eaton Steel.

Created on 13-Dec-2017  
Thomas Snabes, Corporate MetallurgistThis document was prepared by means of electronic  
data processing and is valid without signature.10221 Capital Avenue, Oak Park, MI 48237 USA  
<http://www.eatonsteel.com>Tel: 248-396-3434  
Fax: 248-396-1434

HEAT-177569







# METALLURGICAL TEST REPORT

6870 Highway 42 East  
Ghent, KY 41045-9615  
(502) 347-6000

Date: 11/20/2017 Page: 1

Steel: 304/304L

Finish: 1

Corrosion: ASTM A262/15 A 180Bend-O

Certificate: 355925 8

Customer: 007185 001

Your Order: 15496

NAS Order: IN 0255577 13

## PRODUCT DESCRIPTION:

STAINLESS STEEL PLATE, HRAP; UNS: 30400/30403  
ASTM A240/16a, A480/16b, A666/15; ASME SA240/15, SA480/15, SA666/15  
CHEM ONLY ON FOLLOWING ASTM: A276/17, A479/17, A484/16, A312/16  
CHEM ONLY ON FOLLOWING ASME: SA312/13, SA479/13  
AMS 551H/5513T XM1K; MIL-S-5059D AMD3(X CRN MEAS); MIL-S-4043B  
NACE MR0175/ISO 15156-3:2009 A, MR0103/07:Q08766D-A X MAG PERM  
MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

REMARKS:  
Mat'l is Free of Mercury Contamination. No weld repairs.  
EN 10204:2004 3.1; ROHS 1 & 2 Compliant  
Material is Free of Radioactive Contamination  
Steel Making Process: EAF, AOD, & Cont. Casting  
Product Mfg. by a Quality Mgt. Sys. in Conf. w/ISO 9001  
\*Melted & Manufactured in the USA; Mat'l is DPAAS Compliant

Product Id	Plate#	Skid #	Thickness	Width	Weight	Length	Mark	Pieces	Commodity Code
02600J HB	PK5213	5000	60.0000	2,100	PLATE	240.00	57	1	

CHEMICAL ANALYSIS									
CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)									
Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323									
Chemical Analysis per ASTM A751/14a									
HEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %
600J	US	.0158	18.0605	.3750	1.7165	.2690	.0763	8.0920	.0305
									.0013
									S %
									SI %
									.1505

MECHANICAL PROPERTIES									
Product Id#	Plate#	1 d	o i	o r	UTS	20C .2% YS	20C ELONG	% Hard	R of A
02600J HB	02600J HB				87.39	38.36	65.40	80.50	67.81

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical  
Dept. Mgr.

KRIS LARK

11/20/2017



# 9133

Aperam Inox América do Sul S.A.

CO. 75982  
BART

PO. 13907

aperam

Head Office: Av. Cerandiel, nº 1115, 23º Andar - Centro - Belo Horizonte - MG - 30130-915 - Brazil  
 Plant: Praça 1ª de Maio, nº 9 - Centro - Timbó - MG - 35160-018 - Brazil  
 Branches: Av. Mercedes Benz, nº 1.420 - Distrito Industrial - Campinas - SP - 13054-750 - Brazil  
 Rodovia RSC 453, Km 2.2 - S/N - Distrito Industrial - Caxias do Sul - RS - 95110-080 - Brazil

## QUALITY CERTIFICATE

acc. to EN 10204-3.1.

Number:  
 APERAM Order:  
 Date:  
 Invoice:

1980387  
 79541101  
 17/08/2017  
 1191E17

PO# 15321

Steel grade: AISI 304L

Finish: NR1 - HOT ROLLED

Product: PLATE

Process: E

Dimensions: 18,88 mm x 1524 mm x 6096 mm - 0,625 in x 60,00 in x 240 in

Marks:

## Chemical composition

Heat nr.	C %	Mn %	Si %	P %	S %	Cr %	Ni %	Mo %	N PPM	Al %	Co %	Cu %				
702625E	0,018	1,28	0,460	0,0353	0,0009	18,05	8,01	0,075	440	0,0033	0,170	0,1228				
760990B	0,020	1,46	0,460	0,0395	0,0020	18,05	8,00	0,111	419	0,0037	0,165	0,1816				

## Results

Test/Variable	U.M.	702625E038		702625E035		760990B023		760990B022		760990B024		702625E032	
		702625E03		702625E03		760990B02		760990B02		760990B02		702625E03	
		H	T	H	T	H	T	H	T	H	T	H	T
Tensile Strength	KSI		99,21		99,21		96,89		96,89		96,89		99,21
Yield Strength 0,2%	KSI		51,05		51,05		46,99		46,99		46,99		51,05
Yield Strength 1,0%	KSI		55,84		55,84		50,18		50,18		50,18		55,84
Elongation 2"	%		53,00		53,00		55,00		55,00		55,00		53,00
Austen. Grain Size			06/06		06/06		06/06		06/06		06/06		06/06
Hardness RB	HRB	84,76	84,76	84,76	84,76	78,33	78,33	78,33	78,33	78,33	78,33	84,76	84,76
Oxalic Test		DUAL	0	DUAL	0	DUAL	0	DUAL	0	DUAL	0	DUAL	0
Net Weight	LB	2.6560		2.6560		2.6670		2.6670		2.6670		2.6560	
Gross Weight	LB	2.8770		2.8770		2.8880		2.8880		2.8880		2.8770	

Heat &amp; Lot Identification (U.M.):

Surface quality / dimensions:

Ok

Heat treatment: Minimum Solution anneal temp. 1800 F

Ok

Standards:

ASTM A480/A480M 16B

DIN EN 10204-3.1 05

AD 2000 W 2.08

DIN EN 10088-2 14

ASTM A240/A240M 16A

ASME SA480/SA480M 15

AD 2000 W 0.06

NACE MR01 ISO 15156-09

DIN EN 10088-3 14

ASME SA240/SA240M 15

AD 2000 W 10 07

DIN EN 10028-7 16E

DIN EN 10088-4 10

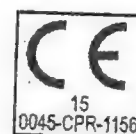
Remarks:

DUAL CERTIFIED AISI- 304/304L NO WELD REPAIR PERFORMED Steel grade also acc. to  
 o DIN WN 1.4307

- a) Free from mercury contamination.  
 b) Material free of contamination from radioactivity. (Guarantee while stored under responsibility of Aperam Inox América do Sul S.A.).  
 c) The products supplied are in compliance with the requirements of the order and the product specification.  
 d) Quality management system certified acc to standard ISO 9001 - Certificate ABS QE Nº 30071.  
 e) Quality management system certified acc to standard ISO/TS 16949 - Certificate ABS QE Nº 38324.  
 f) Environmental management system certified acc to standard ISO 14001 - Certificate ABS QE Nº 65889.  
 g) Product and system certified according to standard AD2000 / MERKBLATT and PED (Directive 97/23/EC) by TÜVNORD (Notified Body Nr. 0045).  
 h) The manufacturer operates a Quality Management System complying to annex I, section 4.3 of the Directive 97/23/EC..  
 i) Country of Melt: Brazil. Country of manufacture: Brazil.  
 j) Products supplied are according to DIN EN 10028-7 and DIN EN 10088-4.  
 k) See Declaration of Performance (DoP) in [www.aperam.com/brasil/ing/produtos\\_servicos/inox\\_biblioteca.asp](http://www.aperam.com/brasil/ing/produtos_servicos/inox_biblioteca.asp)

Paulo Sérgio Ribeiro  
 Qualified Inspector  
 Aperam Inox América do Sul S.A.

QA2





North American Stainless Canada Inc.  
740 Imperial Road North  
Guelph, ON N1K1Z3  
Canada

## METALLURGICAL TEST REPORT

6870 Highway 42 East  
Ghent, KY 41045-9615  
(502) 347-6000

Certificate: 323707 5

Customer: 007025 001

Date: 8/16/2017 Page: 1

Steel: 304/304L

Finish: 2B

Corrosion: ASTM A262/15 A; 180Bend-O

Your Order: C17720

NAS Order: DS 0012604 01

### PRODUCT DESCRIPTION:

STAINLESS STEEL SHEET, C.R. ANNEALED & PICKLED; UNS 30400/30403  
ASTM A240/16a, A480/16b, A666/15; ASME SA240/15, SA480/15, SA666/15  
CHEM ONLY ON FOLLOWING ASTM: A276/17, A479/17, A484/16, A312/16  
CHEM ONLY ON FOLLOWING ASME: SA312/13, SA479/13  
AMS 5511H/5513J XMRK; MIL-5059D AMD3(X CRN MEAS); MIL-4043B  
NACE MR0175/ISO 15156-3:2009 A, MR0103/07; QQS766D-A X MAG PERM  
MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

### REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.  
EN 10204:2004 3.1; RoHS 1 & 2 Compliant  
Material is Free of Radioactive Contamination  
Steel Making Process: EAF, AOD, & Cont. Casting  
Product Mfg. by a Quality Mgt. Sys. in Conf. w/ISO 9001  
\*Melted & Manufactured in the USA; Mat'l is DFARS Compliant

Product Id	Coil #	Skid #	Thickness	Width	Weight	-----Length-----	Mark	Pieces	Commodity Code
E26433	01459P F		.1200	48.0000	4,175 SHEETS	096.00	1	27	NA

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323  
CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/14a

HEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
459P	US	.0162	18.2830	.4160	1.7765	.3080	.0631	8.0820	.0310	.0010
SI %										
.3100										

### MECHANICAL PROPERTIES

Product Id#	Coil #	l o c a l	d i s t r	UTS KSI	20C .2% YS KSI	20C ELONG %-2"	% Hard RB	Tail Hard
E26433	01459P	F	T	93.97	47.25	48.77	85.00	85.50

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical  
Dept. Mgr.

KRIS LARK

8/16/2017

44461

FXH 201

#3425

186

# INSPECTION CERTIFICATE

YIEH MAU CORP.

F17M810

PRIMARY COLD ROLLED STAINLESS STEEL SHEETS

ASTM A304 2B FINISH WITH PAPER INTERLEAVED

YIEH MAU CORP.

DATE OF ISSUE: 2017/12/14

工廠: 高雄市路竹區新安路345號  
345, SHUN AN RD., LU CHU HSANG  
KAOHSIUNG HSIEN TAIWAN R.O.C.  
TEL: 07-9972365 FAX: 07-9973006  
CERTIFICATE NO: F17M810-1

PAPER RESOURCES, INC.				DATE OF ISSUE: 08/14/2017													
SIZE	NO. of Product	Weight in KG NET	Heat No.	ID No.	Physical Properties Tensile Test GL=50 mm					Chemical Properties (%)							
					Y.S. PSI	T.S. PSI	EL. (%)	HRD	HV	C x 100	SI x 100	Mn x 100	P x 1000	S x 1000	Ni x 100	Cu x 100	
120"(3.0MM) X 48" X 96"	1	1871	YU183047	65S16127A-212	307	678	64	85	171	4.2	43	88	34	2	810	1618	2.0
105"(2.7MM) X 48" X 96"	1	1814	LZ513A08	60579-108B-211	316	678	61	88	183	2.1	39	106	24	3	806	1632	6.3
075"(1.9MM) X 48" X 96"	1	1890	LZ142025	65879-192B-22	319	670	53	88	175	2.2	64	81	36	4	803	1628	6.3
060"(1.5MM) X 48" X 96"	1	1883	YU276885	65S15258B-1	288	663	53	83	164	2.3	37	101	36	1	806	1612	3.4
048"(1.2MM) X 48" X 96"	1	1813	LZ513C03	66S79416A-21	302	684	49	88	184	1.7	45	105	23	4	806	1610	5.4
				BS 4818	YU183647												
				BS 48126	LZ513A08												
				BS 48146	LZ142025												
				BS 48166	YU276885												
				BS 48186	LZ513C03												

ASTM A304-15/ASME SA304-15 ANNEALED  
COUNTRY OF ORIGIN: TAIWAN

YIEH MAU CORP.  
Manager of Quality Assurance

REMARKS: NO MERCURY CONTAMINATION  
WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS  
BEEN MANUFACTURED IN ACCORDANCE WITH THE RULES OF THE MRL CERTIFICATE


REMARKS: 1. NO MERCURY CONTAMINATION  
2. INTERGRANULAR CORROSION IN ACCORDANCE WITH ASTM A262-E  
3. TENSILE TEST: 1. 20MPa (ASTM E18, 15), 2. 20MPa (ASTM E18, 15)  
4. TENSILE TEST: 1. 20MPa (ASTM E18, 15), 2. 20MPa (ASTM E18, 15)  
5. TENSILE TEST: 1. 20MPa (ASTM E18, 15), 2. 20MPa (ASTM E18, 15)  
6. TENSILE TEST: 1. 20MPa (ASTM E18, 15), 2. 20MPa (ASTM E18, 15)  
7. MERCURY FREE



# 3419

Fess-110648 304215

48611

Manufactur / Fabricant / Hersteller		Type of document / Type de document / Art der Prüfungsbescheinigung		Document number / N° de certificat / Prüfungsbescheinigung 0000253804 /	
		<b>INSPECTION CERTIFICATE</b> CERTIFICADO DE INSPECCION ABNÄHMEPRÜFZEUGNIS according to / de acordo com / nach EN 10204-3.1		Page / Page / Seite 1 / 1 / 1	
Status of delivery / Conditions de livraison / Lieferbedingungen ASTM A240/A240M-15a, ASME SA-240 Spec. II part A Ed.2015 ASTM A480/A480M-15b, ASME SA-480 Spec. II part A Ed.2015 ASTM A666-15					
Customer's order ref. and ref. de commande / Auftrags-Nr. 7081868		Product description (Thickness / High / Large) / Description du produit (Épaisseur / Hauteur / Largeur) 1.52 mm x 1.218.20 mm x 2.438.40 mm 0.0600 inch x 48.0000 inch x 96.0000 inch		Dispatching procedure / Procédure de livraison AOD	
Product ref. / Référence du produit 7081868		Actual weight / Poids réel 2.601 lb / 1.180 kg 2.601 lb / 1.180 kg		Lot No. / N° de lot 7909660	
Heat / Numéro de chaleur / 514212		Chemical composition / Composition Chimique / Chemische Zusammensetzung % C   % Si   % Mn   % P   % S   % Cr   % Mo   % Ni   % N   % Cu 0.027   0.38   1.29   0.025   0.0010   18.05   0.21   0.03   0.067   0.27		Sample ref. / Référence de l'échantillon 1000461411	
Heat Treatment: Solution annealed 1920 °F Min. Air or water cooled Traitement thermique: Recuit solutionnel 1050 °C min. refroidissement à l'air ou à l'eau		Mechanical properties / Propriétés mécaniques / Mechanische Eigenschaften Yield strength / Résistance à l'écartement / Streckgrenze Tensile strength / Résistance à la traction / Zugfestigkeit Elongation / Allongement / Bruchdehnung Reduction of area / Réduction de surface / Bruchminderung Charpy impact / Impact Charpy / Charpy		Sample ref. / Référence de l'échantillon 1000461412	
Inspection ref. / Référence de l'inspection 1000461411		Yield strength / Résistance à l'écartement / Streckgrenze Tensile strength / Résistance à la traction / Zugfestigkeit Elongation / Allongement / Bruchdehnung Reduction of area / Réduction de surface / Bruchminderung Charpy impact / Impact Charpy / Charpy		Sample ref. / Référence de l'échantillon 1000461412	
Inspection ref. / Référence de l'inspection 1000461412		Yield strength / Résistance à l'écartement / Streckgrenze Tensile strength / Résistance à la traction / Zugfestigkeit Elongation / Allongement / Bruchdehnung Reduction of area / Réduction de surface / Bruchminderung Charpy impact / Impact Charpy / Charpy		Sample ref. / Référence de l'échantillon 1000461412	
Remarks to inspect in order / Remarques à faire en commandant / Beachtungen bei der Bestellung Dimensions: surface / Dimensions: Surface / Maße: Oberfläche Heat treatment: Solution annealed 1920 °F Min. Air or water cooled Traitement thermique: Recuit solutionnel 1050 °C min. refroidissement à l'air ou à l'eau					
Declaration of the document / Déclaration du document / Erklärung des Dokuments The information provided is a true copy of data on file / Les informations fournies sont une copie exacte des données en fichier / Die bereitgestellten Informationen sind eine wahre Kopie der Daten in der Datei					
Outokumpu Stainless USA, LLC An ISO 9001:2008 certified company / EN PED 97/23/EC, Annex I, 4.3 certified		Signature / Signature Name: +1 201 679 3402		Date of issue and validation / Date de délivrance et validation / Datum der Ausstellung / 02/27/2017	
Certificate is provided automatically / Certificat est généré automatiquement / Das Zertifikat wird automatisch erstellt		Name of report / Nom du rapport / Name des Sachverhalts		This document shall not be altered / Ce document ne doit pas être modifié / Dieses Dokument darf nicht verändert werden	

P998707

## PACKING LIST



## Flat Rolled Products

## CERTIFICATE OF TEST

AL 6168-B 0417

[illegible]

GRADE AND SPECIFICATIONS  
"A11 304" STAINLESS STEEL SHEET C R COILS ANNEALED 28 FIN 3 EDGE (ASME-SA-240 ED 2015) (ASTM-A-240-16A)  
(ASTM-A-262-15 PRACTICE E)

ITEM PCS	DIMENSIONS W/G/L	HEAT #	COIL #	TEST #	GROSS TARE NET	THEO TAG #/ CD SKID
001B	1 48"/.0351/2742	853274	8A007322-A	8852660	15965 50 15915	534875
	C CUST IDENTITY 3042B.0351X48-RC				15965 50 15915	
	1 SKID					

ORDER REMARKS: EXM - EXCEPT VAT AND OTHER APPLICABLE LOCAL TAXES WHICH ARE THE RESPONSIBILITY OF THE BUYER  
DIST: EMAIL INVOICE TO AP@SAMUEL.COM VMI ITEM - DO NOT SEND ACK TO SOLD-TO, SEND TO SAMUEL SON &  
CO LTD, 2360 DIXIE ROAD, MISSISSAUGA, ON, CANADA L4Y 1Z7

TYPE HEAT/TEST (WT %)  
HEAT 853274  
TEST LOCATION

ITEM TEST NO	YIELD	TENSILE % ELONG	PSI *	PSI	IN 2"	% R/A	HARDNESS ( MEASURED )	BEND	A 262 PR ESIZE	PASS	NR	TC	CORROSION ASTM GRAIN
001B 9852660	T 46800.	54. #	NR	82.HRBW	(68.HR30TW )	NR				PASS	NR	TC	
	T 46600.	54. #		81.HRBW	(67.HR30TW )							TC	
TEST LOCATION	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	

\* Y.S. BY 0.2% OFFSET METHOD  
# ELONG AT FRACTURE

9852660

NR = DATA NOT REQUIRED

PAGE 01 -- CONTINUED ON PAGE 02

ZT#T0#GT      ZT/ZZ/TT

error in final class condition, being correctly loaded, at which time  
 responsibility for loss or damage in shipment ceased. If any shortage or  
 reduction please examine shipment as it arrives. If any shortage or  
 damage is discovered, have a full description made by transportation  
 agent on waybill before signing.

**WARNING**  
Safety Data Sheets for this product are available on our website, [www.ATInstruments.com](http://www.ATInstruments.com). A thorough review of the Safety Data Sheet for the grade of material purchased shall be performed prior to working with this product and all safety & health considerations outlined must be implemented.

The above is a true copy of data on the Products, Order Acknowledgement.

Noreen DeFerrari  
Sr. Manager Quality, Corporate Quality Assurance

W. S. Furman



## PACKING LIST



## Flat Rolled Products

## CERTIFICATE OF TEST

AL 6168-8 0417

[illegible]

GRADE  
"ATI 304" STAINLESS STEEL SHEET C R COILS ANNEALED 28 FIN 3 EDGE  
CARRIER - LUKEHART TRUCKING, LLC

ATI FLAT ROLLED PRODUCTS DOES NOT USE MERCURY IN THE TESTING OR PRODUCTION OF ITS PRODUCTS.

EN 10204:2006 - 3.1 CERTIFICATE DOES NOT INDICATE PED APPROVAL FOR THIS MATERIAL.

THESE COMMODITIES OR TECHNOLOGY, WHEN EXPORTED FROM THE UNITED STATES, ARE IN ACCORDANCE WITH THE USA EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW IS PROHIBITED. U.S. LAW ALSO PROHIBITS DISPOSITION OF THESE COMMODITIES/TECHNICAL DATA TO ANY END-USER OR FOR ANY END-USE RELATED TO THE DESIGN, DEVELOPMENT, PRODUCTION, STOCKPILING, OR USE OF CHEMICAL, BIOLOGICAL, OR NUCLEAR WEAPONS, OR MISSILES, WITHOUT THE PROPER APPROVAL OF THE UNITED STATES GOVERNMENT.

MATERIAL IS OF USA MELT AND MANUFACTURE.

THE HARDNESS CONVERSION WAS PERFORMED USING EQUATIONS GIVEN IN ASTM E140 DEVELOPED FROM DATA IN TABLES 1, 2, 3, 5, AND 6. THE PARTICULAR EQUATION USED WAS BASED ON MATERIAL TYPE AND MEASURED HARDNESS SCALE. PER ASTM E140, THE CONVERSION VALUES ARE ONLY APPROXIMATE AND MAY BE INACCURATE FOR SPECIFIC APPLICATION.

THIS CERTIFIED MATERIAL TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL. FEDERAL LAW PROHIBITS THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE AND MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL LAW. ATI FRP HOLDS SEVERAL QUALITY CERTIFICATIONS THAT INCLUDE ISO-9001, AS9100, NADCAP, AND ISO/IEC 17025. MATERIAL WAS MANUFACTURED IN ACCORDANCE WITH THE ATI FRP QUALITY MANUAL REVISION 26 DATED 06/14/2017.

PAGE 02 - CONTINUED ON PAGE 03

DATE: 10/21/77

**CONSUMER—Please Note**—This consignment was turned over to our client in first class condition, being correctly labeled at which time our responsibility for loss or damage in shipment ceased. For your reference please examine shipment as it arrives. If any shortage or damage is discovered, have a full description made by transportation agent on waybill before signing.

Safety Data Sheets for this product are available on our website, [www.17mm.com](http://www.17mm.com). A thorough review of the Safety Data Sheet for the grade of material purchased shall be performed prior to working with the product and all safety & health considerations outlined must be implemented.

THE ABOVE IS A TRUE COPY OF DATA ON PRODUCTS' ORDER ACKNOWLEDGMENT.

Norcen DeFerrari  
St. Manager Quality, Corporate Quality Assurance

W. S. Fournier

## PACKING LIST



## Flat Rolled Products

## CERTIFICATE OF TEST

AL 6168-8 0417

[illegible]

"411 304" STAINLESS STEEL SHEET C R COILS ANNEALED 28 FIN 3 EDGE  
GRADE  
CARRIER -- LUKEHART TRUCKING, LLC

ALL FLAT ROLLED PRODUCTS PERFORMS CHEMICAL ANALYSIS BY THE FOLLOWING TECHNIQUES

C9: 3 BT COMBUSTION/INFRARED

N. O., H. BY INERT FUSION/THERMAL CONDUCTIVITY

PAID BY THE FOLLOWING:

AL AND TI ( $\geq 0.10\%$ ) BY WDXRF, OTHERWISE BY OES

ALL FLAT ROLLED PRODUCTS HAS NO CONTROL OVER CUSTOMER PROCESSING OF MATERIAL; INCLUDING, BUT NOT LIMITED TO, BUFFING OR ELECTROPOLISHING MATERIAL WITH A 2B OR OTHER FINISH, AND DOES NOT REPRESENT OR GUARANTEE THAT THE MATERIAL IS SUITABLE FOR ANY PARTICULAR PROCESS OR USE OF CUSTOMER."

EN 10204:2005 3.1 CERTIFICATE.

TESTING WAS PERFORMED AT THE FOLLOWING LOCATIONS:

BN = ATT-FLAT ROLLED PRODUCTS; 100 RIVER ROAD; BRACKENRIDGE, PA 15014

TC = ATT-FLAT ROLLED PRODUCTS; 1300 PACIFIC AVENUE; NATRONA HEIGHTS, PA 15065

FOR ACCESS TO ONLINE CERTIFICATES OF TEST  
REGISTER AT MYAII.AIMETALS.COM

PAGE 03 - FINAL PAGE

11/22/17 15:01:12

**WARNING**  
Safety Data Sheets for this product are available on our website, [www.allstate.com](http://www.allstate.com). A thorough review of the Safety Data Sheet for the grade of material purchased shall be performed prior to working with the product and its safety & health considerations outlined must be implemented.

The above is a true copy of data on the Products' Order Acknowledgement.

*Ms. S. Ferraro*  
Sr. Manager Quality, Corporate Quality Assurance





CO 7 5982 DART  
**VIRAJ PROFILES LIMITED**

1013908  
**VIRAJ**

Works: SURVEY NO.- 25/1, 25/2, 26 & 34, Village- MAAN, Taluka- PALGHAR, Dist.- THANE, MAHARASHTRA -401 506, INDIA,  
 e-mail- vielqc@viraj.com

**TEST CERTIFICATE**

ORDER NO P004802      PACKING LIST NO 64/1005939/15      INSPECTION NO 100006688822      DATE 23.05.2016  
 GRADE 304/304L      HEAT No 41257

BUNDLE NO :  
 1100508253

**DESCRIPTION**  
 STAINLESS STEEL BRIGHT BARS

**ROUGH & PEELED**

SIZE	SHAPE	TOLERANCE	LENGTH	PIECES	WEIGHT
5 1/2"	ROUND	DIN 1013	12' - 14'	1	1,111.000 LB

**CHEMICAL ANALYSIS**

%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Cu	%Mo	%Co	%N2
0.0170	1.070	0.360	0.0250	0.0350	18.170	8.070	0.550	0.340	0.150	0.08200

**TEST RESULTS**

0.2% yield strength ksi	Tensile Strength ksi	Elongation %	Reduction Of Area %	Hardness BHN	Grain Size NOS
40.0	84.0	60.0	71.0	170.0	5.0

**SPECIFICATION:**

MATERIAL CONFIRMS TO DIN EN 10088-3:2005:WNR 1.4301/1.4307,EN 10222-5 AND EN 10272 COND-A & ASTM A182/A-182M-15, ASTM A276/A276M-16 COND A, A479/A479M-15 COND A, A193/A193M-12b B8 CL-1, A320/A320M-11a B8 CL-1, A484 11, A388/A388M-05,ASME SA182-14, SA479-11, SA 193-11 B8 CL-1, SA320-11 B8 CL-1,ASTM A314-2008. IGC SATISFACTORY AS PER ASTM A 262-10 PRACTICE E. AMS 5639H /AMSS647J (EXCEPT MARKING), QQ-S-763F, NACE MR0103-2012,NACE-MR0175/ISO-15156-2015. SAE-AMS-S-7720A, MIL-S-862-B. AISI 304/304L & UNS#S30400/S30403. CERTIFICATION AS PER EN 10204-3.1.

**REMARKS**

MATERIAL IS FREE FROM MERCURY CONTAMINATION, FREE FROM WELD OR WELD REPAIRS, MICRO-FREE FROM CONTINUOUS CARBIDE NETWORK ON GRAIN BOUNDARIES. MACRO-GOOD, MINIMUM SOLUTION ANNEALING TEMPERATURE 1050C, SOAKING TIME 02 HRS, WATER QUENCHED. MELT SOURCE:AOD. WE CONFIRM THAT THE MATERIAL HAS BEEN TESTED AND FOUND TO BE FREE FROM RADIOACTIVE CONTAMINATION.COUNTRY OF ORIGIN: INDIA.

We hereby certify that the material described above has been tested and complies with the terms of order/contract.

WORKS INSPECTOR  
 K R K MURTHY

Larrondo LOU (VIZCAYA) España  
P.O. Box 1.323/48080 Dúbo  
Tel. 34-(4) 4 71 13 00  
Fax 34-(4) 4 53 16 36

Management Systems  
Certified by  
LITQA  
ISO 9001 / SGI 6004360  
ISO 14001 / SGI 1870628

TRA 172

5777

ACEROS INOXIDABLES

OLARRA

486074

LES ACIERS TRANSBEC (1997) LTEE  
4054, BOULEVARD CORBUSIER, BUREAU 201  
LAVAL, QUEBEC, H7L 5R2 - CANADA

Trade Mark - Zeichen des Lieferwerkes  
Anagrama del suministrador



Works Inspector Stamp - Werkssachverständiger  
Sello del Inspector



Certificate type - APZ Nach Certificado tipo		EN 10204/3.1		Certificate n° - Prüf-Nr Certificado n°		321264		Date - Datum - Fecha 19 - 07 - 2017		
Our order N° Werks - Nr N° de Referencia		640247		Heat Schmelze Colada		439067		Your order N° Bestell - Nr Pedido N°		
Steel Grade Werkstoff Calidad		AISI-304-L MECAMAX		According to Entsprechend Corresponde		ASTM A 479 / A 479M-15.				
Shape and Size - Gegenstand Perfil y dimensión ROUND 5/8"		Tolerance - Toleranz Tolerancia ASTM A 484 / TB.7		Bund es Bunde Bultos		1		Bars Stäbe Barras		
				Weight Gewicht Peso		1653 Lbs				
ASME SA 479 / SA 479M-15 ASTM A 276/A 276M-16a. ASTM A 182/A 182M-16. ASME SA 182 / SA 182M-15 ASTM A 193/A 193M-16 B8 CLASS.1. ASME SA 193/SA 193M-15 B8 CLASS.1. ASTM A 320 / A 320M-14. AMS QQS 763D-15 COND.A.				Chemical composition according to ASTM F 899-12b. Chemical composition according to DOD-F-24669/6. Type 304-F.304-F.304L.						
Making process / Erzeugungsart / Proceso de Fusión E.A.F. / A.O.D.				Heat treatment / Wärmebehandlung / Tratamiento térmico 1050C 4H/Sid WATER/WASSER/AGUA						
Solution annealed/Abgeschreckt/Hipertempe-Cold drawn/Gezogen/Estirado-Polished/Poliert/Pulido										
Test results - Ergebnis der Prüfungen - Resultados de los ensayos										
Dimension of Specimen Abmessungen des Probestabes Medida de las probetas		Rp0.2% KSI	Rp 1% KSI	Rm KSI	A %L 5D	A %L 4D	Z %	Hardness Härte HBw	Impact test / Kerschlag / Resiliencia ISO V fl. lb	
RD. 12,50 mm.		25		70		30	40			
Temperature °C 20		84	102	108		36	71	235		
Spec N° Probe Nr. Pro N°										
C		Si	Mn	P	S	Cr	Mo	Ni	Cu	
N		Co								
Min.						18,00		8,00		
Max.		0,030	1,00	2,00	0,045	0,030	20,00	12,00		
		0,020	0,29	1,45	0,039	0,025	18,00	0,35	0,50	
									0,1000	
									0,0900	
									0,14	
Visual and dimensional inspection Besichtigung und Ausmessung Control visual y dimensional		Radioactivity inspection Radioaktivitätskontrolle Control de Radioactividad		Antimixing lost Spaldrost Vorwuchstungspr Antimezcla		Grain Size Korngröße Tamaño de grano				
O.K.		O.K.		O.K.						
Remarks - Bemerkungen - Observaciones										
Free From Mercury contamination/Quecksilberfreiheit. No weld repair. IC test acc./IK prüfung nach ASTM A 262 E.15. OK										
EDV / EDP Acc. EN 10.204 Marian Tejedo Quality Mng.  Works Inspector Der Werkssachverständige Inspector de fábrica										

#6763

CO. 75982  
DART  
**AARIS**™  
LLC

# Material Test Report

7953 Washington Woods Dr.,  
Dayton, OH 45459  
Phone: (937)573-4875 Fax (702)928-4128

Date	MTR No.
5/07/2016	0000056728
Ref No: 104702	

TEST CERTIFICATE ACC TO DIN 50049 3.1 B/EN: 10204: 3.1

Part Number: 87-15955-10

PO Number: 87-15955

Description: A513T5-14; SRA; DOM; Grade=1020; Category=CARBON WELDED; Round; OD=0.625"; ID=0.435"; (WT=0.095"); Deburred; Length=240" to 288"

Product: TUBE

Ends: Deburred

Heat No: 15D2317 ✓

Steel Grade: 1020

	DIMENSIONS		TOLERANCE		UOM
	MM	IN	-VE	+VE	
OD	15.875	0.625	0.0000	0.0050	IN
ID	11.049	0.435	0.0050	0.0000	IN
WT	2.413	0.095	0.0000	0.0000	IN

NUMBER	QUANTITY		WEIGHT TON
	METER / FT		
4	6,351.422	20,838.000	5.600
6,098.000 - 7,315.200 MM		240.000 - 288.000 IN	

CHEMICAL ANALYSIS				
ELEMENTS	UOM	MIN	MAX	MILL PRODUCT
Carbon (C)	%	0.1800	0.2300	0.2040
Manganese (Mn)	%	0.3000	0.6000	0.4190
Silicon (Si)	%			0.110
Aluminum (AL)	%			0.350
Phosphorus (P)	%		0.0350	0.0090
Sulfur (S)	%		0.0350	0.0050
Chromium (Cr)	%			
Nickel (Ni)	%			
Molybdenum (Mo)	%			
Vanadium (V)	%			
Copper (Cu)	%			
Columbium (CB)	%			
Calcium (Ca)	%			
Titanium (Ti)	%			
Nitrogen (N)	%			
Boron (B)	%			
Zirconium (Zr)	%			
Antimony (Sb)	%			
Tin (Sn)	%			

MECHANICAL PROPERTIES			
	Y.S Psi	U.T.S Psi	% E HARDNESS HRB
MIN	55,000	65,000	10.00
MAX			
MILL	71,490	81,600	20.00
PROD			83.00

Sample Orientation:  
Tensile Spec Type:  
Gauge Width (MM):

Remarks:

100% EDDY CURRENT TESTING- E309

PASSED

FLATTENING TEST

2/3% OF OD 1/3% OF OD PASSED

FLARING TEST

15% OF ID PASSED

STRAIGHTNESS

PASSED (1/1000 MM)

Remarks:

Melted In: INDIA

Produced In: INDIA

Product is free of weld repair and has not come in contact with Mercury or any of its components.

We hereby Certify that the material described above conforms to Specification and Purchase Order.

*Bill Johnston*

Bill Johnston

Quality Co-ordinator

Any questions, Please email: TestReports@aaris-llc.com

TUM 58045





# TPI Work Test Certificate

TUBE INVESTMENTS OF INDIA  
TUBE PRODUCTS OF INDIA - MODULE - 1  
POST BOX NO.4 & 18, M T H ROAD, AVADI, CHENNAI - 600054



murugappa

Description : BCS283 /06-JAN-16  
Specification : /  
Condition : PRECISION STEEL TUBES - CDW  
Bundle No's : ASTM A513 / A513M-15 T3 1020  
SRA  
016000794,016000793

TC No : PAE/SC1610749  
Date : 31-JAN-16

Invoice No : 4421809573  
Invoice Date : 29-JAN-16  
Job /Batch No : RBCL1601415

Cut Part No :  
Bundle Tagging : CUSTOMER SIZE /CONDITION /QUANTITY /GROSS WEIGHT /TAG MARKING / WO.NO. / SPEC &  
Tube Marking : GRADE /DESTINATION / BUNDLE NO /COUNTRY OF ORIGIN.  
P. Uom : P.O.NO. /TPI-ED /SIZE /SPEC /CONDITION / TAG MARKING/ HEAT NO. /MADE IN INDIA.  
Size : Inches  
Size : .750" OD x .560" ID x 0.095" WT x 20'-24' R/L

Quantity In : 4250.991 Ft

## LADLE ANALYSIS :

Process	Heat No.	%C	%Mn	%P	%S	%Si	%Al
Min		.18	.3				
Max		.23	.6	.035	.035		
Obs	15102800	.185	.52	.005	.005	.011	.044

Full Section Longitudinal Tensile Test at Room Temp				
Test	Heat No	Y.S	T.S	Elong.
Min		379	448	10
Max				
		MPA	MPA	%
OBS	15102800	475.15	587.1	23

Rock Well Hardness
75 HRB
82 HRB

Dimensions in : Inches				
Spec	OD	ID	WT	Length
Min	.75	.535		240
Max	.755	.56		288
OBS-Min	.752	.556	0	240
OBS-Max	.754	.559	0	287.992

## Technological Tests :

Test	Spec	Result
Crushing		-
Flaring		-
Flattening		-
Flanging		-
Rev. Flang.		-
Elong.Gang.Len		-

## Non-Destructive Tests :

Test	Spec	Result
Roughness OD		
Roughness ID		
Straightness	0.76/1000 MM MAX	0.30/1000 MM
Eddy Current	100	100% TESTED OK
Visual		DEFECT FREE
Ultrasonic Test		

This is to certify that the goods are supplied as per the purchase order and specification Requirements

Prepared by : K. Yuvarajani.

Quality Shift Incharge Signature:

For Tube Investments of India  
Unit: Tube Products of India Module - 1

*Mathavan.M*

Mathavan.M  
Mgr-Quality-IBP-TP

AC7785

#-125070

Item-CDM

.750

.095

.560

Heat #-15102800

8163

TME 1000120-V  
#6505

TRA-1619  
49646

# TPI Work Test Certificate



TUBE INVESTMENTS OF INDIA  
TUBE PRODUCTS OF INDIA - MODULE - I  
POST BOX NO.4 & 18, M T H ROAD, AVADI, CHENNAI - 600054



Order No. : BC6903 /22-DEC-16

TC No : PAE/BC1720318  
Date : 10-FEB-17

Description : PRECISION STEEL TUBES - CDW  
Specification : ASTM A513/A513M-15 T5 C1020  
Condition : SRA  
Bundle No's : 017000842

Invoice No : 4421810999  
Invoice Date : 31-JAN-17  
Job /Batch No : RBCL1701331

Cust Part No :  
Bundle Tagging : CUSTOMER SIZE /CONDITION /QUANTITY /GROSS WEIGHT /TAG MARKING / WO.NO. / SPEC & GRADE /DESTINATION / BUNDLE NO /COUNTRY OF ORIGIN.

Tube Marking : P.O.NO. /TPI-ED /SIZE /SPEC /CONDITION /TAG MARKING/ HEAT NO. /MADE IN INDIA.  
P. Uom : Inches  
Size : 1.000" OD X 0.760" ID X 0.120" WT X 20'-24" R/L

Quantity In : 1857.513 Ft

## LADLE ANALYSIS :

Process	Heat No.	%C	%Mn	%P	%S	%Si	%Al
Min		.18	.3				
Max		.23	.6	.035	.035		
Obs	D37954	.19	.49	.008	.005	.023	.054

## Full Section Longitudinal Tensile Test at Room Temp

Test	Heat No	Y.S	T.S	Elng.
Min		379	448	10
Max				
		MPA	MPA	%
Obs	D37954	480.9	565.76	22

Rock well Hardness	Roughness
75	OD ID
HRB	
84	

## Dimensions In : Inches

Spec	OD	ID	WT	Len
Min	1	.755		240
Max	1.005	.76		288
OBS-Min	1.001	.757	0	267.283
OBS-Max	1.003	.759	0	284.016

## Technological Tests :

Test	Spec	Result
Crushing		-
Flaring		-
Flattening		-
Flanging		-
Rev. Flang.		-
Elng. Gang Len		

## Non-Destructive Tests :

Test	Spec	Result
Straightness	0.76/1000 MM MAX	0.30 / 1000
Eddy Current	100	100% TESTED OK
Visual		DEFECT FREE
Ultrasonic Test		-

This is to certify that the goods are supplied as per the purchase order and specification Requirements

Prepared by : N. A. Haimmal  
Quality Shift Incharge Signature:

for Tube Investments of India  
Unit: Tube Products of India Module - I

D. Es  
Mathavan.M  
Mgt-Quality-IBP-TP





#2453

FAL-1142-12

PO. 9353  
48746**CAN ART**

ALUMINUM EXTRUSION L.P.

Material Test Report

Manifest: 709584

Ticket:

1698543

Our Order: 879031-1

Cust P.O.: 791663

Die: ES04038

Part: 160001442

Alloy Temper: 6061 T6511

Description: 1.250 x 2.000 RECT. BAR

Print Date: 6/22/17

**Chemical Composition**

CastNum	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Other Each	Other Total
3B5790	0.60	0.17	0.22	0.04	0.81	0.06	0.01	0.02	0.05	0.15

**Mechanical Properties**

Strength ksi

Sample ID	Cast #	Lot #	Test Date	Ultimate Tensile	Yield 2% offset	Elongation 2" gage length
71383	3B5790	A11	6/14/17	44.71	41.46	15.5

Applicable Specifications: ASTM B221-14 AMS-QQ-A200/8A

Country of Origin: ONTARIO, CANADA

Can Art Aluminum Extrusion Inc. certifies that materials shipped under this order have been inspected and tested in accordance with Aluminum Association and agreed upon customer specifications. Can Art assumes no liability for additional costs which may be incurred during the customer's manufacture and sale of its products, and is subject only to the replacement of any materials not within agreed upon specifications provided written notification is received by Can Art within 30 days from the date of shipment.

Eric Hotte - Tensile Testing

Authorized:

Evan Eng, Quality Assurance Manager

## Test de dureté Rockwell Rockwell Hardness Test

Client / Customer : LES ACIERS TRANSBEC (1997) LTEE.

Adresse / Address : 4054 BOUL. LE CORBUSIER, #201  
LAVAL, QC  
H7L5R2

# commande Sapa / Sapa order # : 7100203

# bon de commande / Purchase order # : OU-48345

# de matrice / Die # : MS 15954

Description: **4x3/4" FLAT BAR**

Alliage & trempage / Alloy & temper: **6061 T6**

Longueur / Length: **6096 mm**

# Contrôle / Control # : 553-1

# Coulée / Cast # : **70740**

Dureté Rockwell E /

Min. requis /

Max. permis /

Rockwell E hardness : **94 HRE**

Min. required : **88 HRE**

Max. permitted : **100 HRE**

Composition chimique typique / Typical chemical composition :

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
<b>6063</b>	0.20 - 0.60	0.35 Max	0.10 Max	0.10 Max	0.45 - 0.90	0.10 Max	0.10 Max	0.10 Max
<b>6005</b>	0.60 - 0.90	0.35 Max	0.10 Max	0.10 Max	0.40 - 0.60	0.10 Max	0.10 Max	0.10 Max
<b>6005A</b>	0.66-0.74	0.14 - 0.28	0.08 - 0.16	0.18 - 0.26	0.46 - 0.54	0.03 Max	0.05 Max	0.05 Max
<b>6061</b>	0.40 - 0.80	0.70 Max	0.15 - 0.40	0.15 Max	0.80 - 1.20	0.04 - 0.35	0.25 Max	0.15 Max
<b>6351</b>	0.7 - 1.3	0.5 Max	0.10 Max	0.40 - 0.80	0.40 - 0.80	---	0.20 Max	0.20 Max

Nous certifions que le matériel fourni rencontre les exigences chimiques telles qu'annoncées par la norme **ASTM B-221-14** excepté pour la section 8.2 (nombre de spécimen).

We hereby certify that the material supplied meets the chemical properties as published by the ASTM B-221-14 except for section 8.2 (number of specimen).

Sincèrement vôtre,  
Yours truly,

date : **2017-11-09**

Daniel Alfredo Pelletier  
Directeur Qualité  
Quality Director



# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.i.  
Sabb. 39100 BOLZANO (Italia) - Via A. Volta, 4  
Telephone number : 0039 (0) 444968211

Cliente / Recipient: Pacciarini S.p.A.  
VALBRUNA CANADA LTD  
8724 HOLLGATE CRESCENT  
L5T 5Z1-MILTON, ONT L5T 5Z1-CA

Produttore: ACCIAIERIE VALBRUNA S.P.A.  
Hersteller: Valbruna S.p.A.



QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER

CERTIFICATO DI COLLAUDO  
ABNAHMEPRUEFZEUGNIS  
INSPECTION CERTIFICATE  
CERTIFICAT DE RECEPTION  
EN 10204 (2004), 3.1

Avviso di Spedizione: D-VI14040056  
Lieferanten Phasing list BL

Certificato nr.: MEST618656/2014/  
Prüfung/Testschl.

Conferma ordine nr.: E114012062  
Werk Auftragsnr.

Marchio di Fabbrica:  
Zapfen und Lagerbohrung  
Tiefen mark  
Bügele für neue Produkte

Punzone del Collaudatore:  
Sonder aus Werkbuchstaben  
Nachweis für Prüfung der Fertigung



Ordine nr.: 411005038 Stock : Canada  
Bestell-Nr. oder Commerce

Tipo di Elaborazione: E+AOD  
Endverarbeitungsverfahren  
Endverarbeitungsverfahren

Stato di fornitura: Hot rolled Descalced Annealed Hot rolled  
Lieferanten Delivery state: Hot rolled

Specifiche:  
Anforderungen / Requirements / Conditions

VSI 0.304/304L A

AIISI 304/304L

AMS 5647 J S30403 A  
ASME SA193 2013 B8 CLASS1 (1)  
ASME SA479 2013 S30400/03 A (4)  
ASTM A262 2013 PRACTICE E  
ASTM A320 2011A B8 CLASS1  
MIL-S-882 B/1 304/304L  
CO-S-763 F 304/304L A

AMS-OO-S-763 C 304/304L A  
ASME SA276 2013 S30400/03 A (2)  
ASTM A182 2012B S30400/03 A (5)  
ASTM A276 2013A S30400/03 A  
ASTM A473 2001 S30400/03 (6)  
NACE MR0103 2010 S30400/03 A

AMS 5639 H S30400 A  
ASME SA182 2013 S30400/03 A (0)  
ASME SA320 2013 B8 CLASS1 (3)  
ASTM A193 2011A B8 CLASS1  
ASTM A314 2008 S30400/03  
ASTM A479 2013A S30400/03 A  
NACE MR0175 2009 S30400/03 A (7)

(0) SECTION II PT. A 2013 EDITION  
(1) SECTION II PT. A 2013 EDITION  
(3) SECTION II PT. A 2013 EDITION  
(5) For products machined directly from bar refer also  
(6) Chemical analysis only.  
(7) Technical circular 12011 Published 2011-06-14

(0) For products machined directly from bar refer to ASME SA479.  
(2) SECTION II PT. A 2013 EDITION  
(4) SECTION II PT. A 2013 EDITION  
(5) to ASTM A479  
(7) ANSINACE MR0175/ISO 15156-3, second edition 2009-10-15

Qualità 304/304L  
Werkstoff-Gruppe-Nachweis

Marca: AISI  
Werkstoff-Nachweis

Tolleranza: ASTM A484-14 TABLE 5  
Toleranz / Allowance / Toleranz

Punzonatura: 304/304L  
Punzonierung / Markierung / Markierung

Pos. nr. Item nr. Nr. de code	Objetto Description Discr. du produit	Dimensioni - In Dimensions Dimensions	Lunghezza - In Length Longueur	Colata Schmelze Hint	Pezzi Stücken Pèces	Peso - LB Gewicht Poids	Lotto nr. Lot nr. Lot nr.
0020	Flat	2,5000 x 0,7500	144 / 155	266000		2,967	426903270

## TEST ALLO STATO DI FORNITURA

Test on delivery condition - Prüfung auf Lieferzustand - tests à l'état de livraison - Prueba sobre el material así como entregado

TEST	Proveita/Prova Specimen Echantillon Prüfung		°F	Spessore Épaisseur Dicke mm	Spennamento Bruchdehnung Bruchdehnung Rp 0,2% k.s.i.	Svenamento Bruchdehnung Bruchdehnung L in 2 inch mm	Resistenza Tensile strength Zugfestigkeit Rm k.s.i.	Alargamento Elongation Dehnung E 4d %	Strizione Reduction of area Bruchdehnung RA %	Resistenza Tensile strength Zugfestigkeit Rm k.s.i.	Durezza Hardness Härte HB
	min	max									
Valori richiesti 1 Anforderungen Bedingungen					30	-	75	40	50	-	140
A	12,5	68	L	46			115	52	70		235
							91				185

TEST	min	max
A Grain size for ASTM E112		6

## Analisi chimica

Chemische Zusammensetzung / Chemical Analysis

Colata / Pour Schmelze / Cast	min max 0,030	1,00	2,00	18,00 23,00	1,00	1,00	8,00 10,50	0,020 0,030	-	-										
266000	C %	0,020	Si %	0,41	Mn %	1,64	Cr %	18,24	Mo %	0,45	Cu %	0,31	Ni %	8,09	P %	0,032	S %	0,027	N %	0,093

Produced without class I-II Ozone depleting substances.  
Solution heat treated free from continuous carbide network.

Micro and macro etch test: OK

Intergranular corrosion test per ASTM A262 pract. E: ok.

Absence of cracks at 20 x magnification after bend test.

Reduction ratio = 26.7 : 1

Annealing temperature: 1940 °F for 1 h/water.

# Acciaierie Valbruna s.p.a.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.

Stab. : 39100 BOLZANO (Italia) - Via A. Volta, 4

Telephone number : 0039 (0) 444968211

Ciente / BesondereParteien/Gäste  
VALBRUNA CANADA LTD  
8724 HOLTGATE CRESCENT  
L5T 5Z1-MILTON, ONT L5T 5Z1-CA

Produttore: ACCIAIERIE VALBRUNA S.P.A.  
The Valbruna Group's products



QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER

Avviso di Spedizione: D-V114040056  
Lieferantengepfändung bei B.L.

Ordine nr. 411005038 Stock - Canada  
Bestell/Your order/Commande

Stato di fornitura: Hot rolled Descaled Annealed Hot rolled  
Lieferzustand: Delivery state/Etat de livraison

Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste  
Die gestellten Anforderungen sind in Anlage erfüllt.  
The material has been furnished in accordance with the requirements  
Le matériel a été fourni conforme aux exigences

Melted and manufactured in Italy No welding or weld repair

We declare that the finished product is checked for radioactive contamination through Portal System when it leaves the production plant.

The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1, s. 4.3 by TÜV and LLOYD'S

Any act of tampering, modification, alteration, counterfeiting and/or falsification and/or any other action which modifies the contents of this test certificate shall constitute a violation of applicable civil and criminal laws. Acciaierie Valbruna shall protect its rights and interests before any competent court, authority and jurisdiction.

The supplied product conforms to requirements expressly requested by the purchaser and conforms to requirements specified by certified norms and standards. Should the product be used for more severe, critical and/or in any case different applications than those the material is generally intended for, any different and/or supplementary requirements shall be specifically demanded at least, upon order of the Product by the Purchaser, Acciaierie Valbruna SpA shall not be responsible for any improper use of the Products.

CERTIFICATO DI COLLAUDO  
ABNAHMEPRUEFZEUGNIS  
INSPECTION CERTIFICATE  
CERTIFICAT DE RECEPTION  
EN 10204 (2004), 3.1

Certificato nr. MEST618656/2014/  
Prüfzertifikat:

Conferma ordine nr. E114012062  
Werkstoff-Order-Nr.

Marchio di Fabbrica:  
Zeichen des Herstellers:  
Trade mark:  
Signe de l'usine productrice

Punzone del Collaudatore:  
Stempel des Versuchsverständigen:  
Inspector's stamp/Fonction de l'inspecteur



Controllo visivo e dimensionale: soddisfa le esigenze  
Blickprüfung und Ausmessung: entspricht den Anforderungen  
Visual inspection and dimensional check: satisfactory  
Contrôle visuel et dimensionnel: satisfait

Controllo antimescolanza: OK  
Verunreinigungsprüfung: keine Verunreinigung  
Contamination check: OK  
Concôle antimeleage: OK

Q.C. Reviewed  
SR02/27/15

Vicenza, 17/12/14  
VCC006  
(INCL. NCC02)

Il collaudatore di stabilimento / der Werksschwerverständigen/Werk's inspector / L'agent d'usine

M. Rizzotto

Pagina - 2 di 2

# 3419

**AMAG**  
ROLLING**Abnahmeprüfzeugnis 3.1 (EN 10204)**  
**Inspection certificate - mill certificate****Nr.: 89051448**  
**Rev.: 0**Seite / page: 1 von / of 2  
Datum / date: 2017 05 29

Zertifiziert nach / certified to ISO 9001, ISO/TS 16949, EN/AS 9100, ISO 14001, NADCAP

<b>Warenempfänger / consignee:</b> CBS Atlanta 1500 Cherokee Pkwy ACWORTH GA 30102-1603 USA	Bestell Nr. / order no.:	5400341710-R01
	Datum / date:	2017 02 23
	Auftragsbest. Nr. / order confirm no.:	127031
	Datum / date:	2017 02 24
	Lieferschein Nr. / delivery note:	89051448
	Datum / date:	2017 06 30

Produkt / product	Bedingungen / terms	
Form / form: Sheet	Technische Lieferbedingungen / techn. spec.: AMS-QQ-A-250(11) 08.1997 ASTM B-209 - 14 AMS 4027N, 07.2008 ASME SB-209, 2011a Sondervorschrift / special terms:	
Werkstoff / material: 6061		
Zustand / temper: T6		
Dim. / dim.: [inch]: 0,050x48,00x144,00		
Kundenartikel Nr. / cust. article no.: ALFLR01645		

AB-Pos. ord.-item.	BNr/Los Lot/No.	Teillos Part	Guss Nr. cast no.	Werkstoff material	Kollo packno.	Gewicht netto weight net	Stk. pcs.
03	32115/01	00	01/0082348/7	6061	1270310006	4001,323 lbs	119
03	33395/01	00	01/0083055/7	6061	1270310007	3977,072 lbs	119

Chemische Zusammensetzung [%] Gewichtsanteile) / Chemical composition [%] weight proportion (OES))												
Guss Nr. / cast no.		material										
01/0082348/7		6061 spec. min. spec. max. actual	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others Each	Others Total
			0,40	-	0,15	-	0,80	0,04	-	-	-	-
			0,80	0,70	0,40	0,15	1,20	0,35	0,25	0,15	0,05	0,15
			0,66	0,40	0,25	0,13	0,98	0,17	0,05	0,03	0,02	0,03
01/0083055/7		6061 spec. min. spec. max. actual	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others Each	Others Total
			0,40	-	0,15	-	0,80	0,04	-	-	-	-
			0,80	0,70	0,40	0,15	1,20	0,35	0,25	0,15	0,05	0,15
			0,65	0,39	0,23	0,11	0,87	0,17	0,08	0,03	0,01	0,03

Zugprüfung LT / tensile test LT					
BNr/Los Lot/No.	Zustand temper	Richtung direction	Tests	UTS [ksi]	YS [ksi]
				42,0	35,0
			spec.min.	-	10
			spec.max.	-	-
32115/01	T6	LT	2	45,8	35,5
32115/01	T6	LT		46,0	35,8

PAG 166V

## Abnahmeprüfzeugnis 3.1 (EN 10204) Inspection certificate - mill certificate

Nr.: 89051448  
Rev.: 0

Seite / page: 2 von / of 2  
Datum / date: 2017 05 29

Zertifiziert nach / certified to ISO 9001, ISO/TS 16949, ENIAS 9100, ISO 14001, NADCAP

Zugprüfung LT / tensile test LT						
BNr/Los Lot/No.	Zustand temper	Richtung direction	Tests	UTS [ksi]	YS [ksi]	A2" [%]
			spec.min.	42,0	35,0	10
			spec.max.	-	-	-
33395/01	T6	LT	2	47,9	39,3	16
33395/01	T6	LT	to	48,0	40,0	16

### Sonstige Prüfungen / other tests

Biegeversuch: OK. / Transverse bend test: OK.  
Maßkontrolle: OK. / Dimensional Check: OK.  
Oberfläche: OK. / Surface inspection: OK.

### Bemerkungen / notes

Gegossen und gefertigt in Österreich / Country of melt and manufactured in Austria

Es wird bestätigt, dass die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellung entspricht.  
We hereby certify that the material described above has been tested and complies with the terms of the order contract.

Werksachverständiger / factory specialist	E-Mail / e-mail
Josef Klampfer	josef.klampfer@amag.at

Herstellerland: Österreich / goods origin: The goods are of Austrian origin.  
Maschinell erstellt - Gültig ohne Unterschrift / Automated - valid without being signed.



7K4-1885

**CHULAMIN**

Certificate No: 100168872

Head Office: Messia Walks Rd, Piccadilly 2201, P.O. Box 74, Piccadilly 2200, South Africa  
Telephone: +27 20 506 0911 Telex: +27 20 564 8036

<b>BUYER:</b> EMPIRE RESOURCES INC 10th FLOOR 1 PARKER PLAZA FORT LEE	Shipping File No: UH31226 Lot No: 02/08/06003 P/Unit No: 271607191 Release No: PE 150909	Product: 350" X 48.5" X 98.5" PLATE 8001, 1061 Dimension: 0.25" X 40.5" X 80.5" Alloy - Temper: 6061 - T651	Certificate No: 1209104572 Cast Ref Part Not Combined P/Unit No: R17724
---	---	---	---

Case No: PLD717 PLD722

## MECHANICAL TEST RESULTS

Lot No.	Cast No.	Metal Id	Alloy	Specs No	Mechanical Properties							
					Yield Strength (Ksi)	UTS (Ksi)	Elongation At Break (%)	Hardness (HRC)	Test Date	Gage Length (Inches)	End Test	Actual Gage Length (Inches)
Specs				Min Max	35.1	42.0	10			60		0.26
02/08/10503	REM_480P	16-3426053	6061	1	42.0	48.4	14		27/04/16	2		0.265
				2	42.0	48.4	14		21/06/16	2		0.269

## CHEMICAL COMPOSITION

Cast No.	Alloy	Si (%)	P (%)	Cu (%)	Mn (%)	Mg (%)	Cr (%)	Zn (%)	Ti (%)	Each (%)	Total (%)	Alt (%)
MIN		0.40			0.16	0.8	0.04					
MAX		0.8	0.7	0.40	0.18	1.2	0.35	0.26	0.15	0.05	0.15	
REM. ALLOY		0.63	0.44	0.28	0.12	0.85	0.19	0.01	0.014			97.22

CONFIDENCE TO: ASME 15-200 AS PER STUDY / ALSO 1972H AISC-QQA-SIGHTS, OR NOOF

For all purposes of determining conformance with these specifications, all observed values or calculated values shall be rounded to the nearest unit in the last right-hand digit used in representing the specification limit, in accordance with the rounding method of ASTM Practice E28, for Using Significant Digits in Test Data of Dichotomous Conformance with Specifications.

The Numbers - Related Products Text

Printed Date: 23 Jun 2019

View

United, coal, rolled and processed in South Africa - needs Regulations of Rights and RESEARCH

—

PAGE 14V





ARANA Y LIPARDO, 2  
48490 UGAO-MIRAVALLS/VIZCAYA (SPAIN)  
Tfno.: 946480211  
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#5337 RCR-38-V TNA-2147  
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3P.

## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 49709

ALBARAN 49709  
Delivery Note Nr.

CLIENTE LES ACIERS TRANSBEC (1997) LTÉE  
CUSTOMER

Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

PRODUCTO SOLICITADO / PRODUCT ACCORDING ASTM A108

Plancha	DESCRIPCIÓN	KG	TOLERANCIA DE PESO	O	Medida
MN-47094	12L14 RED. ESTIRADO 63,50 (2 1/2")	1.094	- 0,076	917091	63,50
PAR-48569	1018 RED. ESTIRADO 6,35 (1/4")	978	- 0,051	917092	6,35
PAJ-48393	1018 CUA. ESTIRADO 25,40 (1")	1.036	- 0,130	916780	25,40
PAJ-48736	1018 CUA. ESTIRADO 9,53 (3/8")	788	- 0,090	915990	9,53
PAJ-48736	1018 CUA. ESTIRADO 12,70 (1/2")	982	- 0,110	916617	12,70
OU-47949	1018 RED. ESTIRADO 9,53 (3/8")	2.072	- 0,051	141111	9,53
VI-48475	1018 RED. ESTIRADO 9,53 (3/8")	2.130	- 0,051	141131	9,53
VI-48475	1018 RED. ESTIRADO 15,88 (5/8")	1.020	- 0,051	916940	15,88
VI-48475	1018 RED. ESTIRADO 19,05 (3/4")	996	- 0,051	916887	19,05
VI-48475	1018 CUA. ESTIRADO 9,53 (3/8")	746	- 0,090	915990	9,53
VI-48475	1018 CUA. ESTIRADO 9,53 (3/8")	650	- 0,090	916803	9,53
VI-48475	1018 CUA. ESTIRADO 12,70 (1/2")	992	- 0,110	916617	12,70
VI-48475	1018 CUA. ESTIRADO 19,05 (3/4")	1.002	- 0,130	915992	19,05
VI-48475	1018 CUA. ESTIRADO 22,23 (7/8")	890	- 0,130	915746	22,23
VI-48475	1018 CUA. ESTIRADO 25,40 (1")	1.034	- 0,130	916780	25,40
VI-48475	1018 CUA. ESTIRADO 44,45 (1 3/4")	992	- 0,160	916031	44,45
VI-48475	1018 CUA. ESTIRADO 50,80 (2")	1.194	- 0,190	916736	50,80
PAR-48143	1018 CUA. ESTIRADO 25,40 (1")	980	- 0,130	916780	25,40
PAR-48143	1018 CUA. ESTIRADO 50,80 (2")	1.194	- 0,190	916736	50,80
PAR-48143	12L14 RED. ESTIRADO 38,10 (1 1/2")	1.020	- 0,051	916602	38,10
MUP-48145	1018 CUA. ESTIRADO 12,70 (1/2")	990	- 0,110	916617	12,70

Composición química de la colada / Chemical Analysis of Heat

MEDIDA	OF	COLADA	%	%	%	%	%	%	%	%	%	%	%	%
Measurement		Cast Nr.	C	Cr	Cu	Mn	Mo	N	Ni	P	Pb	S	Si	
63,50	0,00	917091	42050 AQ	0,080	0,055	0,011	1,110	0,007	0,000	0,022	0,063	0,310	0,310	0,004
6,35	0,00	917092	41480 GM	0,160	0,000	0,000	0,750	0,000	0,000	0,000	0,021	0,000	0,032	0,160
25,40	0,00	916780	41544 C	0,160	0,000	0,000	0,720	0,000	0,000	0,000	0,016	0,000	0,023	0,160
9,53	0,00	915990	40828 G	0,150	0,000	0,198	0,760	0,000	0,000	0,000	0,016	0,000	0,033	0,242
12,70	0,00	916617	41450	0,150	0,000	0,000	0,769	0,000	0,000	0,000	0,015	0,000	0,009	0,194
9,53	0,00	141111	41776 GM	0,160	0,000	0,290	0,750	0,000	0,008	0,000	0,021	0,000	0,032	0,160
9,53	0,00	141131	41776 GM	0,160	0,000	0,290	0,750	0,000	0,008	0,000	0,021	0,000	0,032	0,160
15,88	0,00	916940	41731 AA	0,153	0,000	0,015	0,863	0,000	0,004	0,000	0,014	0,000	0,033	0,218
19,05	0,00	916887	41645 G	0,160	0,000	0,000	0,640	0,000	0,000	0,000	0,013	0,000	0,019	0,133
9,53	0,00	915990	40828 G	0,150	0,000	0,198	0,760	0,000	0,000	0,000	0,016	0,000	0,033	0,242
		916803	40828 G	0,150	0,000	0,198	0,760	0,000	0,000	0,000	0,016	0,000	0,033	0,242
12,70	0,00	916617	41450	0,150	0,000	0,000	0,769	0,000	0,000	0,000	0,015	0,000	0,009	0,194
19,05	0,00	915992	40080 S	0,165	0,000	0,000	0,780	0,000	0,000	0,000	0,009	0,000	0,024	0,274
22,23	0,00	915746	40587 C	0,150	0,000	0,000	0,600	0,000	0,000	0,000	0,017	0,000	0,020	0,160
25,40	0,00	916780	41544 C	0,160	0,000	0,000	0,720	0,000	0,000	0,000	0,016	0,000	0,023	0,160
44,45	0,00	916031	40716	0,200	0,000	0,000	0,800	0,000	0,000	0,000	0,020	0,000	0,018	0,190
50,80	0,00	916736	41336 C	0,150	0,000	0,000	0,710	0,000	0,000	0,000	0,012	0,000	0,012	0,160



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## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a / Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 49709

ALBARAN 49709  
Delivery Note No.

CLIENTE LBS ACIERS TRANSDEC (1997) LTÉE  
CUSTOMER

Norma : EN 10177

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

	% C	% Cr	% Cu	% Mn	% Mo	% N	% Ni	% P	% Pb	% S	% Si
25,40 0,00 916780 41544 C	0,160	0,000	0,000	0,720	0,000	0,000	0,000	0,016	0,000	0,023	0,160
50,80 0,00 916736 41336 C	0,150	0,000	0,000	0,710	0,000	0,000	0,000	0,012	0,000	0,012	0,160
38,10 0,00 916602 41374 IS	0,070	0,000	0,000	1,120	0,000	0,000	0,000	0,043	0,240	0,295	0,010
12,70 0,00 916617 41450	0,150	0,000	0,000	0,769	0,000	0,000	0,000	0,015	0,000	0,009	0,194

Características mecánicas / Mechanical properties

MEDIDA Measurement	OF	COLADA Cast No.	Resistencia Tens. strength N/mm <sup>2</sup>	Lím. elástico Yield point 0,2% N/mm <sup>2</sup>	Alargamiento Elongation La=50 mm.	Dureza HB Hardness HB	Estricción %
63,50	917091	42050 AQ	504,00	456,70	15,66	185,00	0,00
6,35	917092	41480 GM	678,70	634,90	7,76	190,00	64,75
25,40	916780	41544 C	612,35	583,92	28,20	169,00	0,00
9,53	915990	40828 G	783,23	761,48	10,92	247,00	0,00
12,70	916617	41450	606,20	550,30	15,40	185,00	61,50
9,53	141111	41776 GM	592,90	531,30	18,50	172,00	66,45
9,53	141131	41776 GM	592,90	531,30	18,50	172,00	66,45
15,88	916940	41731 AA	627,37	594,90	19,38	180,00	58,58
19,05	916887	41645 G	647,30	621,09	15,64	195,00	56,94
9,53	915990	40828 G	783,23	761,48	10,92	247,00	0,00
	916803	40828 G	828,30	792,35	9,76	258,00	47,88
12,70	916617	41450	606,20	550,30	15,40	185,00	61,50
19,05	915992	40080 S	530,32	510,28	34,30	162,00	62,99
22,73	915746	40587 C	628,00	595,00	23,00	180,00	0,00
25,40	916780	41544 C	612,35	583,92	28,20	169,00	0,00
44,45	916031	40716	513,00	324,00	32,10	0,00	0,00
50,80	916736	41336 C	515,00	330,00	34,00	0,00	0,00
25,40	916780	41544 C	612,35	583,92	28,20	169,00	0,00
50,80	916736	41336 C	515,00	330,00	34,00	0,00	0,00
38,10	916602	41374 IS	0,00	0,00	0,00	151,00	0,00
12,70	916617	41450	606,20	550,30	15,40	185,00	61,50

Calidad Superficial

DESCRIPCIÓN Description	OF	Clase EN 10177-1
12L14 RED. ESTIRADO 63,50 (2 1/2")	917091	2
1018 RED. ESTIRADO 6,35 (1/4")	917092	2
1018 RED. ESTIRADO 9,53 (3/8")	141111	2
1018 RED. ESTIRADO 9,53 (3/8")	141131	2
1018 RED. ESTIRADO 15,88 (5/8")	916940	2
1018 RED. ESTIRADO 19,05 (3/4")	916887	2
12L14 RED. ESTIRADO 38,10 (1 1/2")	916602	2



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## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 49709

ALBARAN 49709 Delivery Note Nr.	CLIENTE LES ACIERS TRANSBEC (1997) LTÉE CUSTOMER
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Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

Observaciones: BARRAS DE ACERO ESTIRADAS EN FRIO SIN ALEAR

DEPARTAMENTO DE CALIDAD: Certifica que el mencionado producto cumple con las especificaciones del pedido.

QUALITY DEPARTMENT: Certify that the product fulfils the order specifications.

Fecha/Date: 20/11/2017

Firmado: Susana Fernández  
Directora de Calidad



Sistema de  
Gestión  
ISO 9001:2008  
Certificado  
Límite de validez  
10/11/2024





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## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

N° CERTIFICADO / CERTIFICATE NR.: 46579

ALBARAN 46579  
Delivery Note Nr.

CLIENTE LES ACIERS TRANSBEC (1997) LTÉE  
CUSTOMER

Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

PRODUCTO SOLICITADO / PRODUCT ACCORDING ASTM A108

N° PEDIDO Purchase Order					
SM-46716	1018 CUA. ESTIRADO 15,88 (5/8")	974	-0,110	915991	15,88
SM-46716	1018 CUA. ESTIRADO 19,05 (3/4")	512	-0,130	915840	19,05
PAJ-46981	1018 CUA. ESTIRADO 9,53 (3/8")	992	-0,090	915990	9,53
PAJ-46981	1018 RED. ESTIRADO 9,53 (3/8")	1.028	-0,051	915557	9,53
MJP-46937	12L14 HEX. ESTIRADO 31,75 (1 1/4")	946	-0,076	915907	31,75
PAR-47159	12L14 RED. ESTIRADO 22,23 (7/8")	892	-0,051	202246	22,23
PAR-47159	12L14 RED. ESTIRADO 31,75 (1 1/4")	1.002	-0,051	202281	31,75
MN-47068	12L14 RED. ESTIRADO 41,28 (1 5/8")	1.056	-0,076	137984	41,28
MN-47068	12L14 RED. ESTIRADO 44,45 (1 3/4")	1.040	-0,076	135807	44,45
MN-47068	12L14 RED. ESTIRADO 69,85 (2 3/4")	1.006	-0,102	915816	69,85
MJP-47224	1018 RED. ESTIRADO 25,40 (1")	3.006	-0,051	138229	25,40
PAJ-47267	1018 RED. ESTIRADO 22,23 (7/8")	1.168	-0,051	916091	22,23
PAR-47472	1018 RED. ESTIRADO 25,40 (1")	2.998	-0,051	138494	25,40
PAJ-47284	1018 RED. ESTIRADO 25,40 (1")	2.000	-0,051	138523	25,40
MJP-47245	1018 RED. ESTIRADO 25,40 (1")	3.000	-0,051	138527	25,40
OU-47424	1018 RED. ESTIRADO 25,40 (1")	1.000	-0,051	138623	25,40

Composición química de la colada / Chemical Analysis of Heat

MEDIDA Measurement	OF	COLADA Cast Nr.	% C	% Cr	% Cu	% Mn	% Mo	% Ni	% P	% Pb	% S	% Si
15,88 0,00	915991	40639 S	0,165	0,000	0,000	0,763	0,000	0,000	0,015	0,000	0,021	0,285
19,05 0,00	915840	40080 S	0,165	0,000	0,000	0,780	0,000	0,000	0,009	0,000	0,024	0,274
9,53 0,00	915990	40828 G	0,150	0,000	0,198	0,760	0,000	0,000	0,016	0,000	0,033	0,242
9,53 0,00	915557	39825 GM	0,170	0,000	0,000	0,700	0,000	0,000	0,026	0,000	0,020	0,180
31,75 0,00	915907	39680 W	0,070	0,090	0,230	1,110	0,030	0,110	0,051	0,210	0,329	0,020
22,23 0,00	202246	40879 G	0,066	0,045	0,120	1,140	0,022	0,084	0,051	0,260	0,299	0,011
31,75 0,00	202281	40941 G	0,070	0,036	0,096	1,145	0,011	0,060	0,055	0,284	0,299	0,011
41,28 0,00	137984	40229 IS	0,080	0,000	0,000	1,110	0,000	0,000	0,047	0,220	0,295	0,010
44,45 0,00	135807	40237 IS	0,080	0,000	0,000	1,110	0,000	0,000	0,047	0,220	0,295	0,010
69,85 0,00	915816	40561 IS	0,076	0,000	0,000	1,130	0,000	0,000	0,054	0,230	0,285	0,010
25,40 0,00	138229	41198 G	0,160	0,000	0,000	0,630	0,000	0,000	0,007	0,000	0,010	0,136
22,23 0,00	916091	40717 G	0,160	0,000	0,000	0,640	0,000	0,000	0,014	0,000	0,008	0,130
25,40 0,00	138494	41198 G	0,160	0,000	0,000	0,630	0,000	0,000	0,007	0,000	0,010	0,136
25,40 0,00	138523	41198 G	0,160	0,000	0,000	0,630	0,000	0,000	0,007	0,000	0,010	0,136
25,40 0,00	138527	41198 G	0,160	0,000	0,000	0,630	0,000	0,000	0,007	0,000	0,010	0,136
25,40 0,00	138623	41198 G	0,160	0,000	0,000	0,630	0,000	0,000	0,007	0,000	0,010	0,136

Características mecánicas / Mechanical properties



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## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 46579

ALBARAN 46579  
Delivery Note Nr.

CLIENTE LES ACIERS TRANSBEC (1997) LTÉE  
CUSTOMER

Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

MEDIDA		OF	COLADA	Resistencia	Lím.elástico	Alargamiento	Dureza HB	Estricción %
Measurement			Cast Nr.	Tens. strength N/mm2	Yield point 0,2% N/mm2	Elongation Lo=50 mm.	Hardness HB	
15,88		915991	40639 S	585,04	539,10	15,16	180,00	56,61
19,05		915840	40080 S	530,32	510,28	34,50	162,00	62,99
9,53		915990	40828 G	783,23	761,48	10,92	247,00	0,00
9,53		915557	39825 GM	713,60	684,30	11,10	205,00	60,63
31,75		915907	39680 W	533,38	523,05	12,04	169,00	45,79
22,23		202246	40879 G	556,53	537,21	20,08	172,00	47,29
31,75		202281	40941 G	554,30	542,90	19,26	172,00	41,62
41,28		137984	40229 IS	558,50	543,30	11,12	190,00	0,00
44,45		135807	40237 IS	538,50	503,50	15,30	195,00	0,00
69,85		915816	40561 IS	488,20	469,60	22,10	180,00	0,00
25,40		138229	41198 G	566,93	548,05	26,50	172,00	54,84
22,23		916091	40717 G	625,03	599,51	24,20	185,00	55,97
25,40		138494	41198 G	566,93	548,05	26,50	172,00	54,84
25,40		138523	41198 G	566,93	548,05	26,50	172,00	54,84
25,40		138527	41198 G	566,93	548,05	26,50	172,00	54,84
25,40		138623	41198 G	566,93	548,05	26,50	172,00	54,84

Calidad Superficial

DESCRIPCIÓN Description	OF	Clase EN 10277-1
1018 RED. ESTIRADO 9,53 (3/8")	915557	2
12L14 HEX. ESTIRADO 31,75 (1 1/4")	915907	1
12L14 RED. ESTIRADO 22,23 (7/8")	202246	3
12L14 RED. ESTIRADO 31,75 (1 1/4")	202281	3
12L14 RED. ESTIRADO 41,28 (1 5/8")	137984	2
12L14 RED. ESTIRADO 44,45 (1 3/4")	135807	2
12L14 RED. ESTIRADO 69,85 (2 3/4")	915816	1
1018 RED. ESTIRADO 22,23 (7/8")	916091	2

Observaciones: BARRAS DE ACERO ESTIRADAS EN FRIO SIN ALEAR

DEPARTAMENTO DE CALIDAD: Certifica que el mencionado producto cumple con las especificaciones del pedido.  
QUALITY DEPARTMENT: Certify that the product fulfils the order specifications.

Fecha/Date: 24/03/2017

Firmado: Susana Fernández  
Directora de Calidad



Sistema de  
Certificación  
ISO 9001:2008  
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